```
ID   AAP82647 standard; protein; 7 AA.
XX
AC   AAP82647;
XX
DT   25-MAR-2003  (revised)
DT   07-NOV-1990  (first entry)
XX
DE   Linear alpha-melanotrophin (MSH) analogue.
XX
KW   Alpha-melanotrophin; alpha-MSH; melanin; hypopigmentation.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 1
FT                   /label= Nle
FT   Modified-site   4
FT                   /label= D-Phe
XX
PN   EP292291-A.
XX
PD   23-NOV-1988.
XX
PF   19-MAY-1988;   88EP-00304551.
XX
PR   22-MAY-1987;   87US-00053229.
XX
PA   (UYPA ) UNIVERSITY PATENTS INC.
XX
PI   Hruby VJ,  Alobeidi FA,  Hadley ME;
XX
DR   WPI; 1988-331833/47.
XX
PT   New linear and cyclic alpha-melanotropin analogues - having increased
PT   potency and duration of action, used to stimulate melanocytes to produce
PT   melanin.
XX
PS   Claim 1; Page 20; 20pp; English.
XX
CC   The analogues are more potent and/or last longer than alpha-MSH and/or
CC   are more resistant to degredation by blood serum enzymes. They may be
CC   useful than alpha-MSH in diagnosis, therapy and research into
CC   hypopigmentation dysfunctions etc. (Updated on 25-MAR-2003 to correct PI
CC   field.)
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 1;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 5
AAP82640
ID   AAP82640 standard; protein; 7 AA.
XX
AC   AAP82640;
XX
DT   25-MAR-2003  (revised)
DT   07-NOV-1990  (first entry)
XX
DE   Linear alpha-melanotrophin (MSH) analogue.
XX
KW   Alpha-melanotrophin; alpha-MSH; melanin; hypopigmentation.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 1
FT                   /label= Nle
XX
PN   EP292291-A.
XX
PD   23-NOV-1988.
XX
PF   19-MAY-1988;   88EP-00304551.
XX
PR   22-MAY-1987;   87US-00053229.
XX
PA   (UYPA ) UNIVERSITY PATENTS INC.
XX
PI   Hruby VJ,  Alobeidi FA,  Hadley ME;
XX
DR   WPI; 1988-331833/47.
XX
PT   New linear and cyclic alpha-melanotropin analogues - having increased
PT   potency and duration of action, used to stimulate melanocytes to produce
PT   melanin.
XX
PS   Claim 1; Page 20; 20pp; English.
XX
CC   The analogues are more potent and/or last longer than alpha-MSH and/or
CC   are more resistant to degredation by blood serum enzymes. They may be
CC   useful than alpha-MSH in diagnosis, therapy and research into
CC   hypopigmentation dysfunctions etc. (Updated on 25-MAR-2003 to correct PI
CC   field.)
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 1;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 6
AAR26232
ID   AAR26232 standard; peptide; 7 AA.
XX
AC   AAR26232;
XX
DT   25-MAR-2003  (revised)
DT   27-JAN-1993  (first entry)
XX
DE   MSH peptide deriv. (6).
XX
KW   Melanocyte-stimulating hormone; chelate; receptor; diagnosis;
KW   therapeutics.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= NLE
FT   Misc-difference 4
FT                   /note= "D-form residue"
FT   Modified-site   7
FT                   /note= "substd. on side chain NH2, e.g. by bis(2,3-
FT                   dihydroxypropyl)"
XX
PN   EP498771-A2.
XX
PD   12-AUG-1992.
XX
PF   03-FEB-1992;   92EP-00810072.
XX
PR   05-FEB-1991;   91GB-00002450.
XX
PA   (SANO ) SANDOZ AG.
```

```
XX
PI   Rainer A;
XX
DR   WPI; 1992-270709/33.
XX
PT   New chelates with affinity for melanocyte-stimulating hormone alpha-
PT   receptors - useful for imaging or treating of melanomas.
XX
PS   Disclosure; Page 3; 19pp; English.
XX
CC   The terminal amino gp. of the peptide is joined (opt. via spacer) to
CC   chelating gp. The C-terminal of the peptide is amidated. The substit. on
CC   the side chain gp. of the residue in the 11-position is selected so that
CC   it does not significantly interfere with or impair the binding affinity
CC   of the peptide to the MSH receptors. The peptide is useful when labelled
CC   with a detectable element in in vivo diagnostic and therapeutic
CC   applications. (Updated on 25-MAR-2003 to correct PN field.)
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 2;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 7
AAR65782
ID   AAR65782 standard; peptide; 7 AA.
XX
AC   AAR65782;
XX
DT   25-MAR-2003  (revised)
DT   22-JUN-1995  (first entry)
XX
DE   Linear petide #1 for treatment of male psychogenic sexual dysfunction.
XX
KW   Linear; cyclic; sexual response; psychogenic sexual dysfunction; male;
KW   penile erection; stomach discomfort.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT                   /note= "Acylated residue"
FT   Misc-difference 4
FT                   /note= "D-form residue"
FT   Modified-site   7
FT                   /note= "Amidated C-terminal"
XX
PN   WO9422460-A1.
XX
PD   13-OCT-1994.
XX
PF   04-APR-1994;   94WO-US003677.
XX
PR   05-APR-1993;   93US-00043159.
XX
PA   (UYPA ) UNIVERSITY PATENTS INC.
XX
PI   Hadley ME;
XX
DR   WPI; 1994-332809/41.
XX
PT   Diagnosis and treatment of male psychogenic sexual dysfunction - by
PT   administering erectogenic amt. of specified hepta- to deca-peptide amide.
XX
PS   Claim 1; Page 20; 24pp; English.
XX
CC   The sequences given in AAR65782-88 are linear and cyclic peptides which
CC   may be used for bringing about a sexual response or for diagnosing
CC   psychogenic sexual dysfunction in males. These peptides specifically
CC   bring about penile erection, however at higher doses some stomach
CC   discomfort was noted. The peptides were prepared by standard methods of
CC   solid phase synthesis. (Updated on 25-MAR-2003 to correct PN field.)
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 2;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 8
AAR65783
ID   AAR65783 standard; peptide; 7 AA.
XX
AC   AAR65783;
XX
DT   25-MAR-2003  (revised)
DT   22-JUN-1995  (first entry)
XX
DE   Cyclic petide #1 for treatment of male psychogenic sexual dysfunction.
XX
KW   Linear; cyclic; sexual response; psychogenic sexual dysfunction; male;
KW   penile erection; stomach discomfort.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT                   /note= "Acylated residue"
FT   Modified-site   2
FT                   /note= "Forms peptide linkage with Lys7"
FT   Misc-difference 4
FT                   /note= "D-form residue"
FT   Modified-site   7
FT                   /note= "Amidated C-terminal, forms peptide linkage with
FT                   Asp2"
XX
PN   WO9422460-A1.
XX
PD   13-OCT-1994.
XX
PF   04-APR-1994;   94WO-US003677.
XX
PR   05-APR-1993;   93US-00043159.
XX
PA   (UYPA ) UNIVERSITY PATENTS INC.
XX
PI   Hadley ME;
XX
DR   WPI; 1994-332809/41.
XX
PT   Diagnosis and treatment of male psychogenic sexual dysfunction - by
PT   administering erectogenic amt. of specified hepta- to deca-peptide amide.
XX
PS   Claim 1; Page 20; 24pp; English.
XX
CC   The sequences given in AAR65782-88 are linear and cyclic peptides which
CC   may be used for bringing about a sexual response or for diagnosing
CC   psychogenic sexual dysfunction in males. These peptides specifically
CC   bring about penile erection, however at higher doses some stomach
CC   discomfort was noted. The peptides were prepared by standard methods of
CC   solid phase synthesis. (Updated on 25-MAR-2003 to correct PN field.)
XX
SQ   Sequence 7 AA;
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```
  Query Match             100.0%;  Score 36;  DB 2;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 9
AAW19922
ID   AAW19922 standard; peptide; 7 AA.
XX
AC   AAW19922;
XX
DT   19-JAN-1998  (first entry)
XX
DE   Erectogenic peptide #2.
XX
KW   Erectogenic peptide; erectile dysfunction; penile erection;
KW   sexual dysfunction; testosterone; impotence; sexual response;
KW   oestrus cycle; coitus; artificial insemination; detumescence;
KW   ejaculation; cyclic.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT                   /note= "N-terminal acetyl"
FT   Modified-site   2
FT                   /note= "the side chain carboxyl group of Asp2 forms a
FT                   lactam bridge with the epsilon amino group of Lys at
FT                   position 7"
FT   Misc-difference 4
FT                   /note= "D-form residue"
FT   Modified-site   7
FT                   /note= "C-terminal amide; the epsilon amino group of Lys7
FT                   -NH2 forms a lactam bridge with the side-chain carboxyl
FT                   group of Asp at position 2"
XX
PN   CA2158425-A.
XX
PD   16-MAR-1997.
XX
PF   15-SEP-1995;   95CA-02158425.
XX
PR   15-SEP-1995;   95CA-02158425.
XX
PA   (HADL/) HADLEY M E.
XX
PI   Hadley ME;
XX
DR   WPI; 1997-320151/30.
XX
PT   Diagnosis and treatment of erectile dysfunction - by administering an
PT   erectogenic peptide containing the sequence Nle-Asp-His-D-Phe-Arg-Trp-
PT   Lys.
XX
PS   Claim 1; Page 28; 32pp; English.
XX
CC   These erectogenic peptides (AAW19921-7) are used in a novel method for
CC   inducing penile erection in an animal. They can be used, in conjunction
CC   with testosterone or another androgen, to treat impotence in elderly men
CC   whose testosterone levels are declining with age. The peptides also
CC   appear to have an effect of increasing sexual response in females. They
CC   may therefore be administered to increase libido in female animals of
CC   rare species in captivity at the proper time in their oestrus cycle to
CC   make them more receptive to coitus. They may also be administered to the
CC   male animal at the same time to induce the erectile response. The
CC   peptides may be used in artificial insemination programmes to encourage
CC   an animal, e.g. a stallion, to mount a mock female phantom used in the
CC   collection of sperm. The peptides invariably induce an erection in men at
CC   low doses (e.g. 1-10 mg) and without any detectable side effects when
CC   administered systemically. The peptides, at low doses, also allow
CC   detumescence following ejaculation
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 2;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 10
AAW19921
ID   AAW19921 standard; peptide; 7 AA.
XX
AC   AAW19921;
XX
DT   19-JAN-1998  (first entry)
XX
DE   Erectogenic peptide #1.
XX
KW   Erectogenic peptide; erectile dysfunction; penile erection;
KW   sexual dysfunction; testosterone; impotence; sexual response;
KW   oestrus cycle; coitus; artificial insemination; detumescence;
KW   ejaculation.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT                   /note= "N-terminal acetyl"
FT   Misc-difference 4
FT                   /note= "D-form residue"
FT   Modified-site   7
FT                   /note= "C-terminal amide"
XX
PN   CA2158425-A.
XX
PD   16-MAR-1997.
XX
PF   15-SEP-1995;   95CA-02158425.
XX
PR   15-SEP-1995;   95CA-02158425.
XX
PA   (HADL/) HADLEY M E.
XX
PI   Hadley ME;
XX
DR   WPI; 1997-320151/30.
XX
PT   Diagnosis and treatment of erectile dysfunction - by administering an
PT   erectogenic peptide containing the sequence Nle-Asp-His-D-Phe-Arg-Trp-
PT   Lys.
XX
PS   Claim 1; Page 28; 32pp; English.
XX
CC   These erectogenic peptides (AAW19921-7) are used in a novel method for
CC   inducing penile erection in an animal. They can be used, in conjunction
CC   with testosterone or another androgen, to treat impotence in elderly men
CC   whose testosterone levels are declining with age. The peptides also
CC   appear to have an effect of increasing sexual response in females. They
CC   may therefore be administered to increase libido in female animals of
CC   rare species in captivity at the proper time in their oestrus cycle to
CC   make them more receptive to coitus. They may also be administered to the
CC   male animal at the same time to induce the erectile response. The
CC   peptides may be used in artificial insemination programmes to encourage
CC   an animal, e.g. a stallion, to mount a mock female phantom used in the
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CC   collection of sperm. The peptides invariably induce an erection in men at
CC   low doses (e.g. 1-10 mg) and without any detectable side effects when
CC   administered systemically. The peptides, at low doses, also allow
CC   detumescence following ejaculation
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 2;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 11
AAW45070
ID   AAW45070 standard; peptide; 7 AA.
XX
AC   AAW45070;
XX
DT   28-APR-1998  (first entry)
XX
DE   Lactam-bridged Ac-[Nle(4),Asp(5),D-Phe(7),Lys(10)]-alpha-MSH(4-10)-NH2.
XX
KW   cyclic; bridged; lactam; MSH; alpha-melanocyte stimulating hormone;
KW   alpha-melanotropin; analogue; pigmentation.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT                   /note= "the N-terminal is acetylated"
FT   Modified-site   2. .7
FT                   /note= "these two positions are bridged by -Arg-Arg-, -
FT                   Arg-Lys- or -Lys-Arg-"
FT   Misc-difference 4
FT                   /note= "D-form residue"
FT   Modified-site   7
FT                   /note= "the C-terminal is amidated"
XX
PN   US5683981-A.
XX
PD   04-NOV-1997.
XX
PF   06-JUN-1995;   95US-00470343.
XX
PR   22-MAY-1987;   87US-00053229.
PR   29-JUN-1988;   88US-00212807.
PR   13-NOV-1990;   90US-00611456.
PR   31-AUG-1992;   92US-00938781.
PR   22-FEB-1994;   94US-00199775.
XX
PA   (COMP-) COMPETITIVE TECHNOLOGIES INC.
XX
PI   Hadley ME,  Hruby VJ,  Sharma SD;
XX
DR   WPI; 1997-549006/50.
XX
PT   Cyclic alpha-melanotropin analogues - useful for darkening skin.
XX
PS   Claim 1, 2, 9, 10, 11; Col 13-16; 9pp; English.
XX
CC   The sequence represents a new cyclic analogue of alpha-melanotropin
CC   (alpha-MSH) having a defined lactam bridge between Asp(2) and Lys(7).
CC   These analogues are used for stimulating melanocytes to cause darkening
CC   of the skin without the need to expose the skin to sunlight or UV
CC   radiation. They are used especially for normalising hypopigmentation
CC   dysfunctions
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 2;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 12
AAW29355
ID   AAW29355 standard; peptide; 7 AA.
XX
AC   AAW29355;
XX
DT   13-JAN-1998  (first entry)
XX
DE   Linear human alpha-melanocyte stimulating hormone analogue 7.
XX
KW   Human alpha-melanocyte stimulating hormone; analogue; alpha-MSH;
KW   alpha-melanotropin; proopiomelanocortin; hypopigmentation;
KW   pityriasis alba; tinea versicolor; vitiligo;
KW   idiopathic guttae hypomelanosis; nevus depigmentosus; animal pelt.
XX
OS   Synthetic.
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT                   /note= "N-acetyl Norleucine"
FT   Misc-difference 4
FT                   /note= "D-form residue"
FT   Modified-site   7
FT                   /note= "C-terminal amide"
XX
PN   US5674839-A.
XX
PD   07-OCT-1997.
XX
PF   06-DEC-1994;   94US-00349902.
XX
PR   22-MAY-1987;   87US-00053229.
PR   29-JUN-1988;   88US-00212807.
PR   13-NOV-1990;   90US-00611456.
PR   17-JUL-1992;   92US-00916767.
XX
PA   (COMP-) COMPETITIVE TECHNOLOGIES INC.
XX
PI   Al-Obeidi F,  Hruby VJ,  Hadley ME;
XX
DR   WPI; 1997-502371/46.
XX
PT   New cyclic peptide analogues of alpha-melanocyte stimulating hormone -
PT   for treatment of hypo:pigmentation and for darkening human hair or animal
PT   pelts, have prolonged action.
XX
PS   Example 6; Col 29-30; 23pp; English.
XX
CC   This peptide is a synthetic, linear analogue of human alpha melanocyte
CC   stimulating hormone (alpha-MSH). It is used to stimulate mammalian
CC   melanocytes to produce integumental melanin, i.e. to treat
CC   hypopigmentation such as pityriasis alba, tinea versicolor, vitiligo,
CC   idiopathic guttae hypomelanosis and nevus depigmentosus. It can also be
CC   used to darken grey hair and to increase the value of animal pelts. The
CC   peptide can replace alpha-MSH, or its Nle4 analogue, in all diagnostic,
CC   therapeutic and research applications, e.g. localisation/
CC   characterisation of melanoma cells, and as ligand to deliver anticancer
CC   or diagnostic agents. Also treatment with the peptide darkens the skin
CC   without any exposure to UV light. In bioassays on frog skin and on lizard
CC   skin, the present peptide had melanocyte dispersion activities of 0.7 and
CC   8.0, respectively, relative to native alpha-MSH having activities of 1.0
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CC   in both bioassay systems. The peptide did not show prolonged activity in
CC   either assay
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 2;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 13
AAW29337
ID   AAW29337 standard; peptide; 7 AA.
XX
AC   AAW29337;
XX
DT   13-JAN-1998  (first entry)
XX
DE   Cyclic human alpha-melanocyte stimulating hormone analogue 17.
XX
KW   Human alpha-melanocyte stimulating hormone; analogue; alpha-MSH;
KW   alpha-melanotropin; proopiomelanocortin; hypopigmentation;
KW   pityriasis alba; tinea versicolor; vitiligo;
KW   idiopathic guttae hypomelanosis; nevus depigmentosus; animal pelt;
KW   cyclic.
XX
OS   Synthetic.
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT                   /note= "N-acetyl-norleucine"
FT   Modified-site   2
FT                   /note= "The side-chain carboxyl group of Asp at position
FT                   2 forms a lactam bridge with the side-chain amino group
FT                   of Lys at position 7"
FT   Misc-difference 4
FT                   /note= "D-form residue"
FT   Modified-site   7
FT                   /note= "The side-chain amino group of Lys at position 7
FT                   forms a lactam bridge with the side-chain carboxyl group
FT                   of Asp at position 2, C-terminal amide"
XX
PN   US5674839-A.
XX
PD   07-OCT-1997.
XX
PF   06-DEC-1994;   94US-00349902.
XX
PR   22-MAY-1987;   87US-00053229.
PR   29-JUN-1988;   88US-00212807.
PR   13-NOV-1990;   90US-00611456.
PR   17-JUL-1992;   92US-00916767.
XX
PA   (COMP-) COMPETITIVE TECHNOLOGIES INC.
XX
PI   Al-Obeidi F,  Hruby VJ,  Hadley ME;
XX
DR   WPI; 1997-502371/46.
XX
PT   New cyclic peptide analogues of alpha-melanocyte stimulating hormone -
PT   for treatment of hypo:pigmentation and for darkening human hair or animal
PT   pelts, have prolonged action.
XX
PS   Claim 1; Col 42; 23pp; English.
XX
CC   This peptide is a synthetic, cyclic analogue of human alpha melanocyte
CC   stimulating hormone (alpha-MSH). It is used to stimulate mammalian
CC   melanocytes to produce integumental melanin, i.e. to treat
CC   hypopigmentation such as pityriasis alba, tinea versicolor, vitiligo,
CC   idiopathic guttae hypomelanosis and nevus depigmentosus. It can also be
CC   used to darken grey hair and to increase the value of animal pelts. The
CC   peptide can replace alpha-MSH, or its Nle4 analogue, in all diagnostic,
CC   therapeutic and research applications, e.g. localisation/
CC   characterisation of melanoma cells, and as ligand to deliver anticancer
CC   or diagnostic agents. Also treatment with the peptide darkens the skin
CC   without any exposure to UV light. In bioassays on frog skin and on lizard
CC   skin, the present peptide had melanocyte dispersion activities of 0.5 and
CC   90.0, respectively, relative to native alpha-MSH having activities of 1.0
CC   in both bioassay systems and showed prolonged activity in both assays
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 2;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 14
AAW29363
ID   AAW29363 standard; peptide; 7 AA.
XX
AC   AAW29363;
XX
DT   13-JAN-1998  (first entry)
XX
DE   Cyclic human alpha-melanocyte stimulating hormone analogue 25.
XX
KW   Human alpha-melanocyte stimulating hormone; analogue; alpha-MSH;
KW   alpha-melanotropin; proopiomelanocortin; hypopigmentation;
KW   pityriasis alba; tinea versicolor; vitiligo;
KW   idiopathic guttae hypomelanosis; nevus depigmentosus; animal pelt;
KW   cyclic.
XX
OS   Synthetic.
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT                   /note= "N-acetyl-norleucine"
FT   Modified-site   2
FT                   /note= "The side-chain carboxyl group of Asp at position
FT                   2 forms a lactam bridge with the side-chain amino group
FT                   of Lys at position 7"
FT   Misc-difference 4
FT                   /note= "D-form residue"
FT   Modified-site   7
FT                   /note= "C-terminal amide; the side-chain amino group of
FT                   Lys-NH2 at position 7 forms a lactam bridge with the side
FT                   -chain carboxyl group of Asp at position 2"
XX
PN   US5674839-A.
XX
PD   07-OCT-1997.
XX
PF   06-DEC-1994;   94US-00349902.
XX
PR   22-MAY-1987;   87US-00053229.
PR   29-JUN-1988;   88US-00212807.
PR   13-NOV-1990;   90US-00611456.
PR   17-JUL-1992;   92US-00916767.
XX
PA   (COMP-) COMPETITIVE TECHNOLOGIES INC.
XX
PI   Al-Obeidi F,  Hruby VJ,  Hadley ME;
XX
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```
DR   WPI; 1997-502371/46.
XX
PT   New cyclic peptide analogues of alpha-melanocyte stimulating hormone -
PT   for treatment of hypo:pigmentation and for darkening human hair or animal
PT   pelts, have prolonged action.
XX
PS   Example 17; Col 37-38; 23pp; English.
XX
CC   This peptide is a synthetic, cyclic analogue of human alpha melanocyte
CC   stimulating hormone (alpha-MSH). It is used to stimulate mammalian
CC   melanocytes to produce integumental melanin, i.e. to treat
CC   hypopigmentation such as pityriasis alba, tinea versicolor, vitiligo,
CC   idiopathic guttae hypomelanosis and nevus depigmentosus. It can also be
CC   used to darken grey hair and to increase the value of animal pelts. The
CC   peptide can replace alpha-MSH, or its Nle4 analogue, in all diagnostic,
CC   therapeutic and research applications, e.g. localisation/
CC   characterisation of melanoma cells, and as ligand to deliver anticancer
CC   or diagnostic agents. Also treatment with the peptide darkens the skin
CC   without any exposure to UV light. In a bioassay on frog skin, the present
CC   peptide had a melanocyte dispersion activity of 5.0, relative to native
CC   alpha-MSH activity of 1.0 and also showed prolonged activity
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 2;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 15
AAW29362
ID   AAW29362 standard; peptide; 7 AA.
XX
AC   AAW29362;
XX
DT   13-JAN-1998  (first entry)
XX
DE   Linear human alpha-melanocyte stimulating hormone analogue 14.
XX
KW   Human alpha-melanocyte stimulating hormone; analogue; alpha-MSH;
KW   alpha-melanotropin; proopiomelanocortin; hypopigmentation;
KW   pityriasis alba; tinea versicolor; vitiligo;
KW   idiopathic guttae hypomelanosis; nevus depigmentosus; animal pelt.
XX
OS   Synthetic.
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT                   /note= "N-acetyl norleucine"
FT
FT   Modified-site   7
FT                   /note= "C-terminal amide"
FT
XX
PN   US5674839-A.
XX
PD   07-OCT-1997.
XX
PF   06-DEC-1994;   94US-00349902.
XX
PR   22-MAY-1987;   87US-00053229.
PR   29-JUN-1988;   88US-00212807.
PR   13-NOV-1990;   90US-00611456.
PR   17-JUL-1992;   92US-00916767.
XX
PA   (COMP-) COMPETITIVE TECHNOLOGIES INC.
XX
PI   Al-Obeidi F,  Hruby VJ,  Hadley ME;
XX
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DR   WPI; 1997-502371/46.
XX
PT   New cyclic peptide analogues of alpha-melanocyte stimulating hormone -
PT   for treatment of hypo:pigmentation and for darkening human hair or animal
PT   pelts, have prolonged action.
XX
PS   Example 10; Col 31; 23pp; English.
XX
CC   This peptide is a synthetic, linear analogue of human alpha melanocyte
CC   stimulating hormone (alpha-MSH). It is used to stimulate mammalian
CC   melanocytes to produce integumental melanin, i.e. to treat
CC   hypopigmentation such as pityriasis alba, tinea versicolor, vitiligo,
CC   idiopathic guttae hypomelanosis and nevus depigmentosus. It can also be
CC   used to darken grey hair and to increase the value of animal pelts. The
CC   peptide can replace alpha-MSH, or its Nle4 analogue, in all diagnostic,
CC   therapeutic and research applications, e.g. localisation/
CC   characterisation of melanoma cells, and as ligand to deliver anticancer
CC   or diagnostic agents. Also treatment with the peptide darkens the skin
CC   without any exposure to UV light. In bioassays on frog skin and on lizard
CC   skin, the present peptide had melanocyte dispersion activities of 0.004
CC   and 0.08, respectively, relative to native alpha-MSH having activities of
CC   1.0 in both bioassay systems. The peptide also showed prolonged activity
CC   in the frog skin assay
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 2;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 16
AAY02420
ID   AAY02420 standard; peptide; 7 AA.
XX
AC   AAY02420;
XX
DT   12-JUL-1999  (first entry)
XX
DE   Somatostatin analogue peptide.
XX
KW   Metallo-construct; metal ion-binding backbone; cyclic;
KW   biological function domain; conformational restriction; radiotherapeutic;
KW   combinatorial chemistry.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT                   /note= "acetylated"
FT
FT   Modified-site   2. .7
FT                   /note= "linked by GGGC, GGC, GGGH or GGH"
FT
FT   Modified-site   4
FT                   /note= "D-form residue"
FT
XX
PN   WO9640293-A1.
XX
PD   19-DEC-1996.
XX
PF   06-JUN-1996;   96WO-US009840.
XX
PR   07-JUN-1995;   95US-00476652.
PR   05-JUN-1996;   96US-00660697.
XX
PA   (RHOM-) RHOMED INC.
XX
PI   Sharma SD;
XX
```

DR WPI; 1997-077237/07.
XX
PT Metallo-constructs comprising a metal ion-binding backbone for complexing
PT metals - and a biological function domain which may be converted from
PT inactive to active form on binding of the construct to a metal ion.
XX
PS Disclosure; Page 22; 142pp; English.
XX
CC The specification describes a metallo-construct, which may be a peptide,
CC comprising metal ion-binding backbone for complexing with a metal ion and
CC a biological function domain which is conformationally constrained upon
CC complexing the metal ion-binding backbone with a metal ion. The
CC peptide/metal ion complexes are less susceptible to proteolysis than the
CC uncomplexed peptide. The peptides lack conformational restriction if not
CC complexed to a metal ion, so that the uncomplexed peptides are either
CC inactive or low in potency. The complexed peptides may also exhibit
CC altered biodistribution profiles, rate of clearance from the body and
CC bioavailability. The constructs/peptides are useful as biological,
CC therapeutic, diagnostic imaging and radiotherapeutic agents, or in
CC combinatorial chemistry methods. The present cyclic peptide exemplifies
CC the peptides of the invention
XX
SQ Sequence 7 AA;

Query Match 100.0%; Score 36; DB 2; Length 7;
Best Local Similarity 83.3%; Pred. No. 1.4e+06;
Matches 5; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DHXRWK 6
||:|||
Db 2 DHFRWK 7

RESULT 17
AAW47816
ID AAW47816 standard; peptide; 7 AA.
XX
AC AAW47816;
XX
DT 08-DEC-1998 (first entry)
XX
DE Linear alpha-MSH analogue #7.
XX
KW Melanocyte stimulating hormone; MSH; melanotropin; pigmentation.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Modified-site 1
FT /label= Nle
FT /note= "the N-terminal is acetylated"
FT Misc-difference 4
FT /note= "D-form residue"
FT Modified-site 7
FT /note= "Lys-NH2"
XX
PN US5714576-A.
XX
PD 03-FEB-1998.
XX
PF 07-APR-1997; 97US-00826676.
XX
PR 22-MAY-1987; 87US-00053229.
PR 29-JUN-1988; 88US-00212807.
PR 13-NOV-1990; 90US-00611456.
PR 17-JUL-1992; 92US-00916767.
PR 06-DEC-1994; 94US-00349902.
XX
PA (COMP-) COMPETITIVE TECHNOLOGIES INC.
XX
PI Al-Obeidi F, Hadley ME, Hruby VJ;
XX
DR WPI; 1998-158351/14.
XX
PT alpha-Melanotropin peptide analogues - useful for darkening skin or hair,
PT etc.
XX
PS Claim 2; Col 43; 24pp; English.
XX
CC The sequence is a specifically claimed example of new linear analogues of
CC alpha-melanocyte stimulating hormone (alpha-MSH) having the general
CC formula AA1-Nle-AA2-His-AA3-Arg-Trp-AA4-AA5, in which: AA1 = Ac (i.e.
CC acetyl) or Ac-Ser-Tyr-Ser; AA2 = Glu or Asp; AA3 = D-Phe or Phe; AA4 =
CC Lys, Gly, Orn (i.e. ornithine), Dab (i.e. 2,4-diaminobutyric acid) or Dpr
CC (i.e. 2,3-diaminopropionic acid); and AA5 = NH2 or Gly-Pro-Val-NH2. These
CC analogues can be administered trans-cutaneously (e.g. topically) to treat
CC skin hypo-pigmentation disorders, to darken grey hair, to enhance the
CC value of animal pelts by darkening, or to darken the skin in the absence
CC of solar or UV radiation. They could also be used in diagnostic or
CC research applications for detecting melanoma cells, and for targeting
CC drugs or diagnostic agents to tissues with a high concentration of
CC melanotropin receptors
XX
SQ Sequence 7 AA;

Query Match 100.0%; Score 36; DB 2; Length 7;
Best Local Similarity 83.3%; Pred. No. 1.4e+06;
Matches 5; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DHXRWK 6
||:|||
Db 2 DHFRWK 7

RESULT 18
AAW47823
ID AAW47823 standard; peptide; 7 AA.
XX
AC AAW47823;
XX
DT 08-DEC-1998 (first entry)
XX
DE Linear alpha-MSH analogue #14.
XX
KW Melanocyte stimulating hormone; MSH; melanotropin; pigmentation.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Modified-site 1
FT /label= Nle
FT /note= "the N-terminal is acetylated"
FT Modified-site 7
FT /note= "Lys-NH2; i.e. the C-terminal is amidated"
XX
PN US5714576-A.
XX
PD 03-FEB-1998.
XX
PF 07-APR-1997; 97US-00826676.
XX
PR 22-MAY-1987; 87US-00053229.
PR 29-JUN-1988; 88US-00212807.
PR 13-NOV-1990; 90US-00611456.
PR 17-JUL-1992; 92US-00916767.
PR 06-DEC-1994; 94US-00349902.
XX
PA (COMP-) COMPETITIVE TECHNOLOGIES INC.
XX
PI Al-Obeidi F, Hadley ME, Hruby VJ;
XX
DR WPI; 1998-158351/14.
XX
PT alpha-Melanotropin peptide analogues - useful for darkening skin or hair,
PT etc.
XX

PS Claim 2; Col 43; 24pp; English.
XX
CC The sequence is a specifically claimed example of new linear analogues of
CC alpha-melanocyte stimulating hormone (alpha-MSH) having the general
CC formula AA1-Nle-AA2-His-AA3-Arg-Trp-AA4-AA5, in which: AA1 = Ac (i.e.
CC acetyl) or Ac-Ser-Tyr-Ser; AA2 = Glu or Asp; AA3 = D-Phe or Phe; AA4 =
CC Lys, Gly, Orn (i.e. ornithine), Dab (i.e. 2,4-diaminobutyric acid) or Dpr
CC (i.e. 2,3-diaminopropionic acid); and AA5 = NH2 or Gly-Pro-Val-NH2. These
CC analogues can be administered trans-cutaneously (e.g. topically) to treat
CC skin hypo-pigmentation disorders, to darken grey hair, to enhance the
CC value of animal pelts by darkening, or to darken the skin in the absence
CC of solar or UV radiation. They could also be used in diagnostic or
CC research applications for detecting melanoma cells, and for targeting
CC drugs or diagnostic agents to tissues with a high concentration of
CC melanotropin receptors
XX
SQ Sequence 7 AA;

Query Match 100.0%; Score 36; DB 2; Length 7;
Best Local Similarity 83.3%; Pred. No. 1.4e+06;
Matches 5; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DHXRWK 6
||:|||
Db 2 DHFRWK 7

RESULT 19
AAW50292
ID AAW50292 standard; peptide; 7 AA.
XX
AC AAW50292;
XX
DT 08-JUL-1998 (first entry)
XX
DE Cyclic peptide melanocortin analogue.
XX
KW Antagonist; agonist; melanocortin receptor; MC3; MC4; MC1; MC5; lactam;
KW cyclic; melanocyte stimulating hormone; MSH; melanoma;
KW frog skin bioassay.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Modified-site 1
FT /label= Nle
FT /note= "Norleucine, N-terminal acetyl"
FT Modified-site 2
FT /note= "Carboxyl side-chain of Asp2 forms a lactam bridge
FT with the amino side-chain of Lys7"
FT Modified-site 4
FT /note= "D-form residue, 2-naphthylalanine"
FT Modified-site 7
FT /note= "Amino side-chain of Lys7 forms a lactam bridge
FT with the carboxyl side-chain of Asp2"
XX
PN US5731408-A.
XX
PD 24-MAR-1998.
XX
PF 10-APR-1995; 95US-00420972.
XX
PR 10-APR-1995; 95US-00420972.
XX
PA (UYAR-) UNIV ARIZONA.
XX
PI Sharma SD, Hadley ME, Hruby VJ;
XX
DR WPI; 1998-216550/19.
XX
PT Cyclic peptide melanocortin analogues - useful as melanocortin receptor
PT antagonists or agonists e.g. for research.
XX

PS Claim 1; Col 9; 6pp; English.
XX
CC This sequence represents a specifically claimed cyclic lactam peptide of
CC formula Ac-Nle-Asp-His-X-Arg-Trp-Lys-NH2 (I), (Asp and Lys are joined to
CC make the ring). X = D-2'-naphthylalanine (Ia) or D-p-iodo-phenylalanine
CC (Ib). These cyclic peptides are potent and specific antagonists of the
CC two neural melanocortin receptors and of the peripheral receptor. (Ia) is
CC a potent antagonist of the MC3 and MC4 receptors with partial agonist
CC activity, and a full agonist of the MC1 and MC5 receptors; (Ib) is a
CC potent antagonist of the MC3 and MC4 receptors with partial agonist
CC activity. Both peptides have antagonist activities in the classical frog
CC skin bioassay for pigmentation at the MC1 receptor. (I) are used for
CC studying the physiological role of these receptors and possibly for
CC blocking physiological responses to endogenous melanotropin, e.g. for
CC treating melanoma
XX
SQ Sequence 7 AA;

Query Match 100.0%; Score 36; DB 2; Length 7;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DHXRWK 6
||||||
Db 2 DHXRWK 7

RESULT 20
AAW50293
ID AAW50293 standard; peptide; 7 AA.
XX
AC AAW50293;
XX
DT 08-JUL-1998 (first entry)
XX
DE Cyclic peptide melanocortin analogue.
XX
KW Antagonist; agonist; melanocortin receptor; MC3; MC4; MC1; MC5; lactam;
KW melanocyte stimulating hormone; MSH; melanoma; cyclic frog skin bioassay.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Modified-site 1
FT /label= Nle
FT /note= "Norleucine, N-terminal acetyl"
FT Modified-site 2
FT /note= "Carboxyl side-chain of Asp2 forms a lactam bridge
FT with the amino side-chain of Lys7"
FT Modified-site 4
FT /note= "D-form residue, para-iodo-phenylalanine"
FT Modified-site 7
FT /note= "Amino side-chain of Lys7 forms a lactam bridge
FT with the carboxyl side-chain of Asp2"
XX
PN US5731408-A.
XX
PD 24-MAR-1998.
XX
PF 10-APR-1995; 95US-00420972.
XX
PR 10-APR-1995; 95US-00420972.
XX
PA (UYAR-) UNIV ARIZONA.
XX
PI Sharma SD, Hadley ME, Hruby VJ;
XX
DR WPI; 1998-216550/19.
XX
PT Cyclic peptide melanocortin analogues - useful as melanocortin receptor
PT antagonists or agonists e.g. for research.
XX
PS Claim 1; Col 9; 6pp; English.

```
XX
CC   This sequence represents a specifically claimed cyclic lactam peptide of
CC   formula Ac-Nle-Asp-His-X-Arg-Trp-Lys-NH2 (I), (Asp and Lys are joined to
CC   make the ring). X = D-2'-naphthylalanine (Ia) or D-p-iodo-phenylalanine
CC   (Ib). These cyclic peptides are potent and specific antagonists of the
CC   two neural melanocortin receptors and of the peripheral receptor. (Ia) is
CC   a potent antagonist of the MC3 and MC4 receptors with partial agonist
CC   activity, and a full agonist of the MC1 and MC5 receptors; (Ib) is a
CC   potent antagonist of the MC3 and MC4 receptors with partial agonist
CC   activity. Both peptides have antagonist activities in the classical frog
CC   skin bioassay for pigmentation at the MC1 receptor. (I) are used for
CC   studying the physiological role of these receptors and possibly for
CC   blocking physiological responses to endogenous melanotropin, e.g. for
CC   treating melanoma
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 2;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 21
AAB11885
ID   AAB11885 standard; peptide; 7 AA.
XX
AC   AAB11885;
XX
DT   14-NOV-2000  (first entry)
XX
DE   Alpha-MSH antagonist peptide, SEQ ID NO:5.
XX
KW   Alpha-MSH antagonist; alpha melanocyte stimulating hormone; human; POMC;
KW   proopiomelanocortin peptide; peripheral energy homeostasis;
KW   lipid mobilisation; lipolysis; lipid sequestration; body weight disorder;
KW   obesity; cachexia; anorexia; bulimia; wasting disorder; cancer;
KW   cardiovascular disease; type II diabetes; atypical depression;
KW   heart failure; immune system weakness; reproductive disorder;
KW   amenorrhoea; side effect; cyclic.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT                   /note= "Norleucine; N-terminal acetyl"
FT   Modified-site   2. .7
FT                   /note= "The side chain carboxyl group of the Asp"
FT   Modified-site   4
FT                   /note= "Naphthylalanine; D-form residue"
FT   Modified-site   7
FT                   /note= "C-terminal amide"
XX
PN   WO200033658-A1.
XX
PD   15-JUN-2000.
XX
PF   09-DEC-1999;   99WO-US029337.
XX
PR   09-DEC-1998;   98US-0111581P.
PR   29-JUL-1999;   99US-0146299P.
PR   29-JUL-1999;   99US-0146300P.
PR   29-JUL-1999;   99US-0146301P.
PR   29-JUL-1999;   99US-0146302P.
PR   29-JUL-1999;   99US-0146303P.
PR   29-JUL-1999;   99US-0146304P.
PR   29-JUL-1999;   99US-0146305P.
PR   29-JUL-1999;   99US-0146306P.
PR   12-AUG-1999;   99US-00374827.
XX
PA   (ROOS-) ROOSEVELT INST ELEANOR.
PA   (OKLA-) OKLAHOMA MEDICAL RES FOUND.
XX
PI   Brennan MB,  Hochgeschwender U;
XX
DR   WPI; 2000-423155/36.
XX
PT   Regulating metabolism with pro-opiomelanocortin compounds, useful e.g.
PT   for treating obesity, administered peripherally to minimize effects on
PT   the central nervous system.
XX
PS   Claim 32l; Page 138; 168pp; English.
XX
CC   The invention relates to methods and compositions for the regulation of
CC   body weight, and for the treatment of associated disorders, comprising
CC   the administration of a proopiomelanocortin (POMC) compound to peripheral
CC   tissues such that delivery to the central nervous system is minimised.
CC   The amount of POMC compound used is insufficient to alter appetite and is
CC   preferably in the range 0.1 microgram-10 mg/kg. The primary aim of the
CC   invention is therefore to effect weight regulation via the control of the
CC   lipid mobilisation and sequestration in adipose tissue (peripheral
CC   pathways of energy homeostasis) rather than via appetite modification
CC   (central pathways of energy homeostasis). The POMC compounds of the
CC   invention regulate fat stores in adipose tissue by altering free fatty
CC   acid uptake and/or lipolysis. The compounds can be used to treat or
CC   prevent disorders of body weight such as obesity, anorexia, bulimia,
CC   cachexia and wasting disorders. They can be used to treat disorders that
CC   can be associated with obesity (such as cardiovascular disease, certain
CC   cancers, type II diabetes and atypical depression), and disorders that
CC   can be associated with low body weight (such as heart failure, immune
CC   system weakness, amenorrhoea and depression). They can also be used to
CC   treat reproductive disorders and the undesirable body weight changes that
CC   can be side effects of certain pharmaceuticals. The compounds of the
CC   invention include melanocyte stimulatory hormone (MSH) analogues. MSH
CC   agonists reduce body weight, while MSH antagonists increase body weight.
CC   The invention provides alpha-MSH peptide analogues (AAB11841-B11886) and
CC   also discloses a Pomc knockout mouse for the study of peripheral and
CC   central energy homeostasis pathways. Sequences AAB11885-B11886 represent
CC   alpha-MSH antagonists of the invention
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 3;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          2 DHXRWK 7


RESULT 22
AAY53557
ID   AAY53557 standard; peptide; 7 AA.
XX
AC   AAY53557;
XX
DT   15-FEB-2000  (first entry)
XX
DE   Melanocortin receptor ligand MT-II.
XX
KW   Ligand; melanocortin receptor; alpha-melanocyte stimulating hormone; MSH;
KW   neurophysiology; behavioural pattern; neurology; cardiovascular;
KW   metabolism; sexual dysfunction; nerve damage; therapy; cyclic.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT                   /note= "Nor-leucine; acylated N-terminus"
FT   Modified-site   2
```

```
FT                   /note= "side chain carboxyl of this residue is linked to
FT                   the side chain amide of the Lys at position 7 by a lactam
FT                   bond to form a cyclic structure"
FT   Misc-difference 4
FT                   /note= "D-form residue"
FT   Modified-site   7
FT                   /note= "Amidated C-terminus; side chain amide of this
FT                   residue is linked to the side chain carboxyl of the Asp
FT                   at position 2 by a lactam bond to form a cyclic
FT                   structure"
XX
PN   WO9954358-A1.
XX
PD   28-OCT-1999.
XX
PF   19-APR-1999;   99WO-GB001195.
XX
PR   17-APR-1998;   98GB-00008229.
XX
PA   (QUAD-) QUADRANT HOLDINGS CAMBRIDGE LTD.
XX
PI   Adan RAH,  Gispen WH;
XX
DR   WPI; 2000-013231/01.
XX
PT   New peptides that selectively interact with melanocortin (MC) receptors,
PT   useful for treating disorders associated with MC receptors e.g.
PT   neurological and behavioral disorders.
XX
PS   Example 1; Page 9; 20pp; English.
XX
CC   Peptides (AAY53555)-(AAY53563) represent synthetic ligands that
CC   selectively interact with melanocortin (MC) receptors, and exhibit
CC   biological activity in vivo. The peptides are modified from alpha-
CC   melanocyte stimulating hormone (alpha-MSH) and show distinct
CC   neurophysiological effects displayed as behavioural patterns. The
CC   peptides are useful for treating disorders associated with MC receptors,
CC   especially neurological, behavioural, cardiovascular, metabolic, sexual
CC   dysfunction, or nerve damage caused by other therapy. The peptides are
CC   specific for MC receptors, especially MC3, MC4 and MC5 receptors, and
CC   their activity has been characterized in vivo
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 3;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 23
AAY53562
ID   AAY53562 standard; peptide; 7 AA.
XX
AC   AAY53562;
XX
DT   15-FEB-2000  (first entry)
XX
DE   Melanocortin receptor ligand SHU9119.
XX
KW   Ligand; melanocortin receptor; alpha-melanocyte stimulating hormone; MSH;
KW   neurophysiology; behavioural pattern; neurology; cardiovascular;
KW   metabolism; sexual dysfunction; nerve damage; therapy; cyclic.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT                   /note= "Nor-leucine; acylated N-terminus"
FT   Modified-site   2
FT                   /note= "side chain carboxyl of this residue is linked to
FT                   the side chain amide of the Lys at position 7 by a lactam
FT                   bond to form a cyclic structure"
FT   Modified-site   4
FT                   /label= Nal
FT                   /note= "Naphthylalanine; D-form residue"
FT   Modified-site   7
FT                   /note= "Amidated C-terminus; side chain amide of this
FT                   residue is linked to the side chain carboxyl of the Asp
FT                   at position 2 by a lactam bond to form a cyclic
FT                   structure"
XX
PN   WO9954358-A1.
XX
PD   28-OCT-1999.
XX
PF   19-APR-1999;   99WO-GB001195.
XX
PR   17-APR-1998;   98GB-00008229.
XX
PA   (QUAD-) QUADRANT HOLDINGS CAMBRIDGE LTD.
XX
PI   Adan RAH,  Gispen WH;
XX
DR   WPI; 2000-013231/01.
XX
PT   New peptides that selectively interact with melanocortin (MC) receptors,
PT   useful for treating disorders associated with MC receptors e.g.
PT   neurological and behavioral disorders.
XX
PS   Example 1; Page 9; 20pp; English.
XX
CC   Peptides (AAY53555)-(AAY53563) represent synthetic ligands that
CC   selectively interact with melanocortin (MC) receptors, and exhibit
CC   biological activity in vivo. The peptides are modified from alpha-
CC   melanocyte stimulating hormone (alpha-MSH) and show distinct
CC   neurophysiological effects displayed as behavioural patterns. The
CC   peptides are useful for treating disorders associated with MC receptors,
CC   especially neurological, behavioural, cardiovascular, metabolic, sexual
CC   dysfunction, or nerve damage caused by other therapy. The peptides are
CC   specific for MC receptors, especially MC3, MC4 and MC5 receptors, and
CC   their activity has been characterized in vivo
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 3;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          2 DHXRWK 7


RESULT 24
AAY53558
ID   AAY53558 standard; peptide; 7 AA.
XX
AC   AAY53558;
XX
DT   15-FEB-2000  (first entry)
XX
DE   Melanocortin receptor ligand D-Tyr-MT-II.
XX
KW   Ligand; melanocortin receptor; alpha-melanocyte stimulating hormone; MSH;
KW   neurophysiology; behavioural pattern; neurology; cardiovascular;
KW   metabolism; sexual dysfunction; nerve damage; therapy; cyclic.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
```

```
FT                   /label= Nle
FT                   /note= "Nor-leucine; acylated N-terminus"
FT   Modified-site   2
FT                   /note= "side chain carboxyl of this residue is linked to
FT                   the side chain amide of the Lys at position 7 by a lactam
FT                   bond to form a cyclic structure"
FT   Misc-difference 4
FT                   /note= "D-form residue"
FT   Modified-site   7
FT                   /note= "Amidated C-terminus; side chain amide of this
FT                   residue is linked to the side chain carboxyl of the Asp
FT                   at position 2 by a lactam bond to form a cyclic
FT                   structure"
XX
PN   WO9954358-A1.
XX
PD   28-OCT-1999.
XX
PF   19-APR-1999;   99WO-GB001195.
XX
PR   17-APR-1998;   98GB-00008229.
XX
PA   (QUAD-) QUADRANT HOLDINGS CAMBRIDGE LTD.
XX
PI   Adan RAH,  Gispen WH;
XX
DR   WPI; 2000-013231/01.
XX
PT   New peptides that selectively interact with melanocortin (MC) receptors,
PT   useful for treating disorders associated with MC receptors e.g.
PT   neurological and behavioral disorders.
XX
PS   Claim 1; Page 11; 20pp; English.
XX
CC   Peptides (AAY53555)-(AAY53563) represent synthetic ligands that
CC   selectively interact with melanocortin (MC) receptors, and exhibit
CC   biological activity in vivo. The peptides are modified from alpha-
CC   melanocyte stimulating hormone (alpha-MSH) and show distinct
CC   neurophysiological effects displayed as behavioural patterns. The
CC   peptides are useful for treating disorders associated with MC receptors,
CC   especially neurological, behavioural, cardiovascular, metabolic, sexual
CC   dysfunction, or nerve damage caused by other therapy. The peptides are
CC   specific for MC receptors, especially MC3, MC4 and MC5 receptors, and
CC   their activity has been characterized in vivo
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 3;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHYRWK 7


RESULT 25
AAY80502
ID   AAY80502 standard; peptide; 7 AA.
XX
AC   AAY80502;
XX
DT   06-JUN-2000  (first entry)
XX
DE   Human [Nle4,Asp5,D-Phe7,Lys10]-alpha MSH(4-10).
XX
KW   Vulnerary; dermatological; antiinflammatory; scarring; human; wounds;
KW   alpha-melanocyte stimulating hormone; proinflammatory cytokine inhibitor;
KW   nitric oxide synthase regulator; antiinflammatory IL-10 synthesis;
KW   pulmonary fibrosis; trauma; intestinal obstruction; vision; hearing.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT                   /note= "Norleucine"
FT   Misc-difference 4
FT                   /note= "D-form residue"
XX
PN   WO200004873-A1.
XX
PD   03-FEB-2000.
XX
PF   22-JUL-1999;   99WO-GB002388.
XX
PR   22-JUL-1998;   98GB-00015822.
PR   06-AUG-1998;   98GB-00017143.
XX
PA   (SMIN ) SMITH & NEPHEW PLC.
XX
PI   Ferguson MWJ,  Chettibi S;
XX
DR   WPI; 2000-195076/17.
XX
PT   Use of a neuropeptide for prevention and treatment of scars and chronic
PT   wounds.
XX
PS   Claim 2; Page 38; 44pp; English.
XX
CC   The invention relates to the use of a melanocyte stimulating hormone
CC   (MSH), analogue or functional fragment in the treatment of scarring. This
CC   sequence represents an analogtue of the human alpha-MSH. MSH is an
CC   inhibitor of proinflammatory cytokine production, a regulator of nitric
CC   oxide synthase and a stimulator of antiinflammatory IL-10 synthesis. MSH,
CC   or its analogues, is useful in the preparation of a composition for the
CC   treatment of scarring and chronic wounds, and for improving the
CC   appearance of existing scars, especially scarring associated with
CC   pulmonary fibrosis, muscular and neuronal trauma, intestinal obstruction,
CC   impaired vision and hearing (from scarring of corneal or tympanic
CC   membrane) are treated using compositions containing the MSH analogues
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 3;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 26
AAY87805
ID   AAY87805 standard; peptide; 7 AA.
XX
AC   AAY87805;
XX
DT   24-AUG-2000  (first entry)
XX
DE   Melanocortin receptor antagonist cyclic peptide #9.
XX
KW   Antagonist; melanocortin; MC1 receptor; MC3 receptor; MC4 receptor;
KW   MC5 receptor; cyclic; inhibitor; treatment; learning; memory; drug;
KW   sexual behaviour; body temperature regulation; immune response;
KW   blood-brain barrier.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT                   /note= "acetylated norleucine"
FT   Modified-site   2
FT                   /note= "This residue condenses with the Lys residue at
```

```
FT                  position 7 to form a cyclic peptide"
FT   Modified-site  4
FT                  /label= OTHER
FT                  /note= "(2R,3S)-a-Me-Naphthylalanine"
FT   Modified-site  7
FT                  /note= "This residue condenses with the Asp residue at
FT                  position 2 to form a cyclic peptide. C-terminal amide"
XX
PN   US6054556-A.
XX
PD   25-APR-2000.
XX
PF   28-NOV-1997;   97US-00980238.
XX
PR   10-APR-1995;   95US-00420972.
XX
PA   (ARIZ-) ARIZONA BOARD OF REGENTS.
XX
PI   Lim S,  Yuan W,  Huby VJ;
XX
DR   WPI; 2000-349440/30.
XX
PT   Cyclic polypeptide useful for inhibiting melanocortin receptors comprise
PT   sequences with modified amino acids.
XX
PS   Claim 1; Col 11-12; 10pp; English.
XX
CC   This invention describes novel cyclic polypeptides (I) for inhibiting
CC   melanocortin receptors. (I) are useful for inhibiting melanocortin
CC   receptors and may be useful in treatment of learning and memory
CC   processes, sexual behaviour, regulation of body temperature and immune
CC   response and as a vehicle for drugs across the blood-brain barrier. They
CC   may also be used as research tools and for screening drugs. The peptides
CC   are selectively antagonistic for the melanocortin 1, 3, 4 and 5
CC   receptors. This sequence represents a melanocortin antagonist described
CC   in the invention
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 3;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          2 DHXRWK 7


RESULT 27
AAY87808
ID   AAY87808 standard; peptide; 7 AA.
XX
AC   AAY87808;
XX
DT   24-AUG-2000  (first entry)
XX
DE   Melanocortin receptor antagonist cyclic peptide #12.
XX
KW   Antagonist; melanocortin; MC1 receptor; MC3 receptor; MC4 receptor;
KW   MC5 receptor; cyclic; inhibitor; treatment; learning; memory; drug;
KW   sexual behaviour; body temperature regulation; immune response;
KW   blood-brain barrier.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT                   /note= "acetylated norleucine"
FT   Modified-site   2
FT                   /note= "This residue condenses with the Lys residue at
FT                   position 7 to form a cyclic peptide"
FT   Modified-site   4
FT                   /label= OTHER
FT                   /note= "naphthylalanine"
FT   Modified-site   7
FT                   /note= "This residue condenses with the Asp residue at
FT                   position 2 to form a cyclic peptide. C-terminal amide"
XX
PN   US6054556-A.
XX
PD   25-APR-2000.
XX
PF   28-NOV-1997;   97US-00980238.
XX
PR   10-APR-1995;   95US-00420972.
XX
PA   (ARIZ-) ARIZONA BOARD OF REGENTS.
XX
PI   Lim S,  Yuan W,  Huby VJ;
XX
DR   WPI; 2000-349440/30.
XX
PT   Cyclic polypeptide useful for inhibiting melanocortin receptors comprise
PT   sequences with modified amino acids.
XX
PS   Claim 1; Col 13-14; 10pp; English.
XX
CC   This invention describes novel cyclic polypeptides (I) for inhibiting
CC   melanocortin receptors. (I) are useful for inhibiting melanocortin
CC   receptors and may be useful in treatment of learning and memory
CC   processes, sexual behaviour, regulation of body temperature and immune
CC   response and as a vehicle for drugs across the blood-brain barrier. They
CC   may also be used as research tools and for screening drugs. The peptides
CC   are selectively antagonistic for the melanocortin 1, 3, 4 and 5
CC   receptors. This sequence represents a melanocortin antagonist described
CC   in the invention
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 3;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          2 DHXRWK 7


RESULT 28
AAY87804
ID   AAY87804 standard; peptide; 7 AA.
XX
AC   AAY87804;
XX
DT   24-AUG-2000  (first entry)
XX
DE   Melanocortin receptor antagonist cyclic peptide #8.
XX
KW   Antagonist; melanocortin; MC1 receptor; MC3 receptor; MC4 receptor;
KW   MC5 receptor; cyclic; inhibitor; treatment; learning; memory; drug;
KW   sexual behaviour; body temperature regulation; immune response;
KW   blood-brain barrier.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT                   /note= "acetylated norleucine"
FT   Modified-site   2
FT                   /note= "This residue condenses with the Lys residue at
FT                   position 7 to form a cyclic peptide"
FT   Modified-site   4
FT                   /label= OTHER
FT                   /note= "(2R,3R)-a-Me-Naphthylalanine"
```

```
FT   Modified-site   7
FT                   /note= "This residue condenses with the Asp residue at
FT                   position 2 to form a cyclic peptide. C-terminal amide"
XX
PN   US6054556-A.
XX
PD   25-APR-2000.
XX
PF   28-NOV-1997;   97US-00980238.
XX
PR   10-APR-1995;   95US-00420972.
XX
PA   (ARIZ-) ARIZONA BOARD OF REGENTS.
XX
PI   Lim S,  Yuan W,  Huby VJ;
XX
DR   WPI; 2000-349440/30.
XX
PT   Cyclic polypeptide useful for inhibiting melanocortin receptors comprise
PT   sequences with modified amino acids.
XX
PS   Claim 1; Col 11-12; 10pp; English.
XX
CC   This invention describes novel cyclic polypeptides (I) for inhibiting
CC   melanocortin receptors. (I) are useful for inhibiting melanocortin
CC   receptors and may be useful in treatment of learning and memory
CC   processes, sexual behaviour, regulation of body temperature and immune
CC   response and as a vehicle for drugs across the blood-brain barrier. They
CC   may also be used as research tools and for screening drugs. The peptides
CC   are selectively antagonistic for the melanocortin 1, 3, 4 and 5
CC   receptors. This sequence represents a melanocortin antagonist described
CC   in the invention
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 3;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          2 DHXRWK 7


RESULT 29
AAB26588
ID   AAB26588 standard; peptide; 7 AA.
XX
AC   AAB26588;
XX
DT   30-JAN-2001  (first entry)
XX
DE   Melanotan-II.
XX
KW   MT-II; melanotan-II; PT-14; alpha-adrenergic receptor antagonist;
KW   cyclic-GMP-specific phosphodiesterase inhibitor; CPI; ARA;
KW   erectile dysfuction.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT   Modified-site   1
FT                   /note= "N-terminal acetyl"
FT   Misc-difference 4
FT                   /note= "D-form residue"
FT   Modified-site   7
FT                   /note= "C-terminal amide"
XX
PN   WO200053148-A2.
XX
PD   14-SEP-2000.
XX
PF   03-MAR-2000; 2000WO-US005711.
XX
PR   08-MAR-1999;   99US-0123244P.
XX
PA   (MERI ) MERCK & CO INC.
PA   (WALD/) WALDSTREICHER J.
XX
PI   Stoner E;
XX
DR   WPI; 2000-601929/57.
XX
PT   Treating erectile dysfunction in human comprises administering
PT   melanocortin receptor agonist in combination with cyclic-GMP-specific
PT   phosphodiesterase inhibitor or alpha-adrenergic receptor antagonist.
XX
PS   Disclosure; Page 3; 25pp; English.
XX
CC   The present invention relates to treating erectile dysfunction in humans.
CC   The method involves administering an agonist of the melanocortin receptor
CC   in combination with a cyclic-GMP-specific phosphodiesterase inhibitor
CC   (CPI) or an alpha-adrenergic receptor antagonist (ARA). This combination
CC   provides effective treatment of either psychogenic or organic erectile
CC   dysfunction in a greater percentage of the affected population, provides
CC   for a shorter onset and longer duration of action and has fewer side
CC   effects than either member of the combination separately. The present
CC   sequence is melanotan-II. This peptide is a synthetic melanocortin
CC   receptor agonist
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 3;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 30
AAB00108
ID   AAB00108 standard; peptide; 7 AA.
XX
AC   AAB00108;
XX
DT   08-NOV-2000  (first entry)
XX
DE   Control peptide used in assay for AGRP binding.
XX
KW   Agouti signalling protein; agouti related peptide; AGRP; ASP; obesity;
KW   eating disorder; antibody; probe; melanocortin; receptor.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Norleucine
FT                   /note= "Acetylated"
FT   Misc-difference 4
FT                   /note= "D-form residue"
XX
PN   WO200044898-A2.
XX
PD   03-AUG-2000.
XX
PF   27-JAN-2000; 2000WO-US001879.
XX
PR   29-JAN-1999;   99US-00240078.
XX
PA   (AMGE-) AMGEN INC.
XX
PI   Jarosinki MA;
```

```
XX
DR   WPI; 2000-476223/41.
XX
PT   Novel peptides derived from human anti-agouti-related polypeptide and
PT   anti-agouti-signaling protein, useful for treating eating disorders, e.g.
PT   obesity.
XX
PS   Example 2; Page 81; 81pp; English.
XX
CC   Agouti related peptides, their fragments, variants or derivatives may be
CC   used as modulators of feeding behavior (e.g. to treat obesity) and to
CC   generate anti-agouti-related polypeptide (AGRP) and anti-agouti-signaling
CC   protein (ASP) antibodies. Nucleic acids encoding these peptides may be
CC   used as hybridization probes in assays. The antibodies may be used to
CC   inhibit the binding of the AGRP/ASP peptide to melanocortin receptors or
CC   in in vitro or in vivo diagnostics. This control peptide is an AGRP
CC   analogue and was used in binding melanocortin receptor binding assays
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 3;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 31
AAB29241
ID   AAB29241 standard; peptide; 7 AA.
XX
AC   AAB29241;
XX
DT   12-FEB-2001  (first entry)
XX
DE   Melanocortin receptor ligand cyclic peptide analogue #40.
XX
KW   Melanocortin receptor ligand; peptide analogue; cyclic; MC-4; MC-3;
KW   obesity; body weight disorder; behaviour; memory; muscle atrophy;
KW   cardiovascular function; inflammation; sepsis; sexual dysfunction;
KW   nerve growth; foetal growth; CNS depression.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= OTHER
FT                   /note= "Nor-leucine, N-terminal acetyl"
FT   Modified-site   2. .7
FT                   /label= OTHER
FT                   /note= "molecule is cyclised"
FT   Modified-site   7
FT                   /label= OTHER
FT                   /note= "C-terminal amide"
XX
PN   WO200058361-A1.
XX
PD   05-OCT-2000.
XX
PF   21-MAR-2000; 2000WO-US007473.
XX
PR   29-MAR-1999;   99US-0126673P.
XX
PA   (PROC ) PROCTER & GAMBLE CO.
XX
PI   Mazur AW,  Wang F,  Sheldon RJ,  Ebetino FH;
XX
DR   WPI; 2000-664909/64.
XX
PT   New cyclopeptide analogs, useful as appetite modulators, are selective MC
PT   -3 and MC-4 melanocortin receptor ligands.
XX
PS   Example 30; Page 46; 66pp; English.
XX
CC   The present invention relates to a number of cyclic peptide analogues
CC   which function as melanocortin receptor ligands. The sequences are given
CC   in AAB29201-B29246. These are useful in the treatment of body weight
CC   disorders including obesity, anorexia and cachexia, CNS depression,
CC   behaviour and memory-related disorders, cardiovascular function,
CC   inflammation, sepsis, septic, cardiogenic and hypovolemic shock, sexual
CC   dysfunction, erectile dysfunction, muscle atrophy, diseases associated
CC   with nerve growth and repair and intrauterine foetal growth
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 3;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHYRWK 7


RESULT 32
AAG65948
ID   AAG65948 standard; peptide; 7 AA.
XX
AC   AAG65948;
XX
DT   11-FEB-2002  (first entry)
XX
DE   Synthetic cyclic heptapeptide, melanotan II (MT-II).
XX
KW   MT-II; piperidine; anorectic; antidiabetic; vasotropic; hypotensive;
KW   antilipemic; antiarthritic; osteopathic; cytostatic; hepatotropic;
KW   antidepressant; sedative; tranquilizer; antiaddictive; analgesic;
KW   antipyretic; antiinflammatory; immunomodulator; antirheumatic; MC-4R;
KW   dermatological; neuroprotective; nootropic; gynecological; tocolytic;
KW   melanocortin receptor; melanotan II; cyclic.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT                   /note= "norleucine, N-terminal acetylation"
FT   Peptide         2. .7
FT                   /note= "cyclic"
FT   Misc-difference 4
FT                   /note= "D-form residue"
FT   Modified-site   7
FT                   /note= "C-terminal amide"
XX
PN   WO200170708-A1.
XX
PD   27-SEP-2001.
XX
PF   20-MAR-2001; 2001WO-US008935.
XX
PR   23-MAR-2000; 2000US-0191442P.
PR   20-OCT-2000; 2000US-0242265P.
XX
PA   (MERI ) MERCK & CO INC.
XX
PI   Palucki BL,  Barakat KJ,  Guo L,  Lai Y,  Nargund RP,  Park MK;
PI   Pollard PG,  Sebhat IK,  Ye Z;
XX
DR   WPI; 2001-648380/74.
XX
PT   New substituted piperidines, useful as melanocortin receptor agonists for
PT   treating e.g. obesity, diabetes and sexual dysfunction.
XX
PS   Disclosure; Page 4; 220pp; English.
```

```
XX
CC   The invention provides substituted piperidines (I) of specified formula,
CC   and their pharmaceutically acceptable salts.(I) are agonists of human
CC   melanocortin receptor, an in particular, are selective agonists of human
CC   melanocortin-4 receptor (MC-4R). (I) can be used to treat diseases or
CC   conditions responsive to the melanocortin receptor, obesity, diabetes
CC   mellitus, male or female sexual dysfunction and erectile dysfunction. (I)
CC   can also be used to treat hypertension, hyperlipidemia, osteoarthritis,
CC   cancer, gall bladder disease, sleep apnea, depression, anxiety,
CC   compulsion, neuroses, insomnia/sleep disorder, substance abuse, pain,
CC   fever, inflammation, immunemodulation, rheumatoid arthritis, skin
CC   tanning, acne and other skin disorders. (I) can also be used as
CC   neuroprotective agents and for cognitive and memory enhancement including
CC   the treatment of Alzheimer's disease. The present sequence represents the
CC   sequence of a centrally acting alpha-melanocyte-stimulating hormone
CC   analog, melanotan II (MT-II). MT-II is a synthetic cyclic heptapeptide
CC   containing a melanocortin receptor binding region
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 4;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 33
AAB61545
ID   AAB61545 standard; peptide; 7 AA.
XX
AC   AAB61545;
XX
DT   03-APR-2001  (first entry)
XX
DE   alpha-melanocyte-stimulating hormone peptide.
XX
KW   Alpha-melanocyte-stimulating hormone; alpha-MSH; vasotropic;
KW   sexual response stimulator; sexual dysfunction; erectile dysfunction.
XX
OS   Unidentified.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /note= "N-terminal acetyl; Norleucine"
FT   Modified-site   2
FT                   /note= "Linked to residue 7 to form a cyclic peptide"
FT   Misc-difference 4
FT                   /note= "D-form residue"
FT   Modified-site   7
FT                   /note= "Linked to residue 2 to form a cyclic peptide"
XX
PN   WO200100224-A1.
XX
PD   04-JAN-2001.
XX
PF   29-JUN-2000; 2000WO-US018217.
XX
PR   29-JUN-1999;   99US-0142346P.
PR   05-APR-2000; 2000US-0194987P.
PR   28-JUN-2000; 2000US-00606501.
XX
PA   (PALA-) PALATIN TECHNOLOGIES INC.
XX
PI   Blood CH,  Shadiack AM,  Bernstein JK,  Herbert GW;
XX
DR   WPI; 2001-137878/14.
XX
PT   Novel melanocortin receptor-specific peptides useful for treating sexual
PT   dysfunction in mammals, including male sexual dysfunction such as
PT   erectile dysfunction, and female sexual dysfunction.
XX
PS   Claim 1; Page 23; 33pp; English.
XX
CC   The present sequence is a peptide of alpha-melanocyte-stimulating hormone
CC   (alpha-MSH). alpha-MSH is a melanocortin receptor-specific peptide. This
CC   peptide can be used to produce a pharmaceutical composition, which can be
CC   used to stimulate sexual response in a mammal, to treat sexual
CC   dysfunction in mammal including male sexual dysfunction such as erectile
CC   dysfunction, and female sexual dysfunction
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 4;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 34
AAE29082
ID   AAE29082 standard; peptide; 7 AA.
XX
AC   AAE29082;
XX
DT   27-JAN-2003  (first entry)
XX
DE   Alpha-melanocyte-stimulating hormone analogue, melanotan-II peptide.
XX
KW   N-acylated piperidine derivative; melanocortin receptor; MC-4R; obesity;
KW   diabetes mellitus; sexual dysfunction; erectile dysfunction; insomnia;
KW   hypertension; gall bladder disease; hyperlipidaemia; immunomodulation;
KW   osteoarthritis; cancer; sleep disorder; depression; cognitive disorder;
KW   rheumatoid arthritis; neuroprotective disorder; Alzheimer's disease;
KW   anxiety; compulsion; inflammation; sleep apnoea; substance abuse; pain;
KW   impotence; fever; skin tannin; acne; skin disorder; dysmenorrhoea;
KW   alpha-melanocyte-stimulating hormone; melanotan-II; MT-II; therapy.
XX
OS   Unidentified.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT                   /note= "N-terminal acetyl"
FT   Misc-difference 2
FT                   /note= "Linked to Lys at position 7 to form a cyclic
FT                   structure"
FT   Misc-difference 4
FT                   /note= "D-form residue"
FT   Modified-site   7
FT                   /note= "Linked to Asp at position 2 to form a cyclic
FT                   structure; C-terminal amide"
XX
PN   WO200268387-A2.
XX
PD   06-SEP-2002.
XX
PF   25-FEB-2002; 2002WO-US005623.
XX
PR   28-FEB-2001; 2001US-0272258P.
PR   22-JUN-2001; 2001US-0300572P.
XX
PA   (MERI ) MERCK & CO INC.
XX
PI   Goulet MT,  Nargund RP,  Sebhat IK,  Ujjainwalla F,  Walsh TF;
PI   Warner D,  Young JR,  Bakshi RK,  Ye Z;
XX
DR   WPI; 2002-759789/82.
XX
PT   New 4-substituted N-acylated piperidine derivatives useful for treating
PT   e.g. obesity.
```

XX
PS Disclosure; Page 4; 138pp; English.
XX
CC The invention relates to novel 4-substituted N-acylated piperidine
CC derivatives which serve as agonists of human melanocortin receptor (MC-
CC 4R). The invention is used for the treatment or prevention of disorders,
CC diseases or conditions responsive to the activation of MC-4R in a mammal
CC e.g. obesity, diabetes mellitus, male or female sexual dysfunction,
CC erectile dysfunction, hypertension, gall bladder disease, cancer,
CC hyperlipidaemia, osteoarthritis, insomnia/sleep disorder, depression,
CC anxiety, compulsion, neuroses, inflammation, sleep apnoea, substance
CC abuse, pain, impotence, loss of libido, fever, immunomodulation,
CC rheumatoid arthritis, skin tannin, acne and other skin disorders,
CC neuroprotective disorder and cognitive disorders including the treatment
CC of Alzheimer's disease, premature labour, sexual pain and dysmenorrhoea.
CC The present sequence is alpha- melanocyte-stimulating hormone analogue,
CC melanotan-II (MT-II) peptide used in the invention
XX
SQ Sequence 7 AA;

Query Match 100.0%; Score 36; DB 5; Length 7;
Best Local Similarity 83.3%; Pred. No. 1.4e+06;
Matches 5; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DHXRWK 6
||:|||
Db 2 DHFRWK 7

RESULT 35
ABG94506
ID ABG94506 standard; peptide; 7 AA.
XX
AC ABG94506;
XX
DT 27-NOV-2002 (first entry)
XX
DE Alpha-melanocyte-stimulating hormone (alpha-MSH) peptide analogue #2.
XX
KW Vasoactive intestinal polypeptide; VIP; female sexual dysfunction; vulva;
KW vagina; vaginal atrophy; pain; intercourse; vaginal itching;
KW vaginal dryness; sexual desire enhancement; female genitalia; frigidity;
KW sexual aversion; menopausal state; post-menopausal state; sexual desire;
KW sexual activity; multiple sclerosis; atherosclerosis; diabetes mellitus;
KW peripheral neuropathy; autonomic neuropathy; anorgasmia; hypoxia;
KW vaginal muscle tone; vaginal lubrication; collagen misdeposition;
KW alpha-melanocyte-stimulating hormone; alpha-MSH; melanocortin peptide.
XX
OS Unidentified.
XX
PN US2002099003-A1.
XX
PD 25-JUL-2002.
XX
PF 13-AUG-2001; 2001US-00929818.
XX
PR 28-OCT-1997; 97US-00959057.
PR 28-OCT-1997; 97US-00959064.
PR 27-OCT-1998; 98US-00181316.
PR 04-FEB-2000; 2000US-00498522.
XX
PA (WILS/) WILSON L F.
PA (PLAC/) PLACE V A.
XX
PI Wilson LF, Place VA;
XX
DR WPI; 2002-697729/75.
XX
PT Treating sexual dysfunction in females comprises administering vasoactive
PT intestinal polypeptide or against to vagina and/or vulvar region.
XX
PS Disclosure; Page 10; 19pp; English.
XX
CC The invention relates to a method for treating sexual dysfunction in
CC females comprising administering a formulation comprising a vasoactive
CC agent comprising a vasoactive intestinal polypeptide and/or agonist to
CC the vagina and/or vulvar region. The method is used for preventing
CC vaginal atrophy and pain during intercourse, for treating vaginal itching
CC and dryness, for enhancing sexual desire and responsiveness in females
CC and for maintaining improvement of the tissue health of the female
CC genitalia. The method is also used for treating persistent or recurrent
CC deficiency or absence of sexual fantasies and desire for sexual activity,
CC frigidity, sexual aversion, menopausal or post-menopausal state, multiple
CC sclerosis, atherosclerosis, peripheral neuropathy, autonomic neuropathy,
CC diabetes mellitus, substance-induced decreases in sexual desire and
CC responsiveness and primary and secondary anorgasmia. The formulation
CC improves vaginal muscle tone and tissue health, increases vaginal
CC lubrication and minimises collagen misdeposition resulting from hypoxia.
CC This sequence represents an alpha-melanocyte-stimulating hormone (alpha-
CC MSH) peptide analogue (also referred to as a melanocortin peptide), used
CC as a vasoactive agent
XX
SQ Sequence 7 AA;

Query Match 100.0%; Score 36; DB 5; Length 7;
Best Local Similarity 83.3%; Pred. No. 1.4e+06;
Matches 5; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DHXRWK 6
||:|||
Db 2 DHFRWK 7

RESULT 36
ABB76171
ID ABB76171 standard; peptide; 7 AA.
XX
AC ABB76171;
XX
DT 22-JUL-2002 (first entry)
XX
DE Melanocortin stimulating hormone antagonist.
XX
KW Melanocortin stimulating hormone; MSH; human; diabetes; obesity;
KW insulin resistance; antidiabetic; antagonist; cyclic.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Modified-site 1
FT /label= Nle
FT Modified-site 1
FT /note= "N-terminal acetyl"
FT Misc-difference 2
FT /note= "Linked to residue 7 to form cyclic peptide"
FT Modified-site 4
FT /note= "D-form residue, naphthylalanine"
FT Modified-site 7
FT /note= "C-terminal amide"
FT Misc-difference 7
FT /note= "Linked to residue 2 to form cyclic peptide"
XX
PN WO200223184-A1.
XX
PD 21-MAR-2002.
XX
PF 13-SEP-2001; 2001WO-US028720.
XX
PR 13-SEP-2000; 2000US-0232292P.
XX
PA (ROOS-) ROOSEVELT INST ELEANOR.
PA (OKLA-) OKLAHOMA MEDICAL RES FOUND.
XX
PI Brennan MB, Hochgeschwender U;
XX
DR WPI; 2002-404825/43.

```
XX
PT   Identifying compounds useful in regulating insulin resistance in obesity
PT   and type II diabetes by using a proopiomelanocortin null mutant non-human
PT   animal as a model.
XX
PS   Disclosure; Page 27; 70pp; English.
XX
CC   The present sequence is a cyclic analogue of human alpha-melanocortin
CC   stimulating hormone (alpha-MSH). It is an alpha-MSH antagonist suitable
CC   for use in a method of the invention. A claimed method of identifying
CC   compounds useful in regulating insulin resistance in obesity and type II
CC   diabetes involves administering a compound having MSH biological activity
CC   to a genetically modified non-human animal that has a genetic
CC   modification within 2 alleles of its Pomc locus that result in an absence
CC   of proopiomelanocortin (Pomc) peptide activity, where administration of
CC   the compound induces insulin resistance in the animal, and selecting
CC   compounds that decrease insulin resistance in the animal. The compound
CC   having MSH biological activity is MSH or its fragment, homologue, peptide
CC   or non-peptide mimetic, or fusion protein. The compound to be evaluated
CC   is preferably an MSH antagonist. A claimed method of decreasing insulin
CC   resistance in a mammal involves administering an MSH antagonist,
CC   especially an MSH fragment, homologue, mimetic or fusion protein having
CC   antagonist action, a soluble MSH receptor, or an antibody that
CC   selectively binds to MSH. A claimed method to treat diabetes associated
CC   with insulin resistance comprises administering a composition comprising
CC   an MSH antagonist that decreases insulin resistance
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 5;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          2 DHXRWK 7


RESULT 37
ABB76172
ID   ABB76172 standard; peptide; 7 AA.
XX
AC   ABB76172;
XX
DT   22-JUL-2002  (first entry)
XX
DE   Melanocortin stimulating hormone antagonist.
XX
KW   Melanocortin stimulating hormone; MSH; human; diabetes; obesity;
KW   insulin resistance; antidiabetic; antagonist; cyclic.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT   Modified-site   1
FT                   /note= "N-terminal acetyl"
FT   Misc-difference 2
FT                   /note= "Linked to residue 7 to form cyclic peptide"
FT   Modified-site   4
FT                   /note= "D-form residue, para-iodo-phenylalanine"
FT   Modified-site   7
FT                   /note= "C-terminal amide"
FT   Misc-difference 7
FT                   /note= "Linked to residue 2 to form cyclic peptide"
XX
PN   WO200223184-A1.
XX
PD   21-MAR-2002.
XX
PF   13-SEP-2001; 2001WO-US028720.
XX
PR   13-SEP-2000; 2000US-0232292P.
XX
PA   (ROOS-) ROOSEVELT INST ELEANOR.
PA   (OKLA-) OKLAHOMA MEDICAL RES FOUND.
XX
PI   Brennan MB,  Hochgeschwender U;
XX
DR   WPI; 2002-404825/43.
XX
PT   Identifying compounds useful in regulating insulin resistance in obesity
PT   and type II diabetes by using a proopiomelanocortin null mutant non-human
PT   animal as a model.
XX
PS   Disclosure; Page 27; 70pp; English.
XX
CC   The present sequence is a cyclic analogue of human alpha-melanocortin
CC   stimulating hormone (alpha-MSH). It is an alpha-MSH antagonist suitable
CC   for use in a method of the invention. A claimed method of identifying
CC   compounds useful in regulating insulin resistance in obesity and type II
CC   diabetes involves administering a compound having MSH biological activity
CC   to a genetically modified non-human animal that has a genetic
CC   modification within 2 alleles of its Pomc locus that result in an absence
CC   of proopiomelanocortin (Pomc) peptide activity, where administration of
CC   the compound induces insulin resistance in the animal, and selecting
CC   compounds that decrease insulin resistance in the animal. The compound
CC   having MSH biological activity is MSH or its fragment, homologue, peptide
CC   or non-peptide mimetic, or fusion protein. The compound to be evaluated
CC   is preferably an MSH antagonist. A claimed method of decreasing insulin
CC   resistance in a mammal involves administering an MSH antagonist,
CC   especially an MSH fragment, homologue, mimetic or fusion protein having
CC   antagonist action, a soluble MSH receptor, or an antibody that
CC   selectively binds to MSH. A claimed method to treat diabetes associated
CC   with insulin resistance comprises administering a composition comprising
CC   an MSH antagonist that decreases insulin resistance
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 5;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 38
AAO19482
ID   AAO19482 standard; peptide; 7 AA.
XX
AC   AAO19482;
XX
DT   11-DEC-2002  (first entry)
XX
DE   Melanotan-II melanocortin receptor agonist.
XX
KW   Melanocortin-4 receptor agonist; 4-substituted N-acylated piperidine;
KW   derivative; obesity; diabetes; sexual dysfunction; cancer; inflammation;
KW   anorectic; antidiabetic; vasotropic; hypotensive; antilipemic;
KW   osteopathic; cytostatic; antidepressant; tranquilizer; antiaddictive;
KW   analgesic; antipyretic; antirheumatic; antiarthritic; antiseborrhic;
KW   dermatological; tocolytic; antiinflammatory; nootropic; neuroprotective;
KW   gynaecological.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT                   /note= "N-terminal acetylated"
FT   Cross-links     2. .7
FT                   /note= "cyclise the molecule"
FT   Misc-difference 4
```

```
FT                  /note= "D-form residue"
FT   Modified-site  7
FT                  /note= "C-terminal amide"
XX
PN   WO200267869-A2.
XX
PD   06-SEP-2002.
XX
PF   25-FEB-2002; 2002WO-US008002.
XX
PR   28-FEB-2001; 2001US-0272259P.
XX
PA   (MERI ) MERCK & CO INC.
XX
PI   Goulet MT, Nargund RP, Ujjainwalla F, Walsh TF, Warner D;
XX
DR   WPI; 2002-732725/79.
XX
PT   New 4-substituted N-acylated piperidine derivatives useful for treating,
PT   e.g. obesity, diabetes mellitus, sexual dysfunction, osteoarthritis,
PT   cancer, acne Alzheimer's disease or dysmenorrhea.
XX
PS   Disclosure; Page 4; 106pp; English.
XX
CC   The present invention relates to 4-Substituted N-acylated piperidine
CC   derivatives capable of acting as melanocortin 4 receptor antagonist.
CC   These can be used for the treatment or prevention of disorders, diseases
CC   or conditions responsive to the activation of the melanocortin-4 receptor
CC   in a mammal, e.g. obesity, diabetes mellitus, male or female sexual
CC   dysfunction, and erectile dysfunction, hypertension, hyperlipidemia,
CC   osteoarthritis, cancer, gall bladder disease, sleep apnea, depression,
CC   anxiety, compulsion, neuroses, insomnia/sleep disorder, substance abuse,
CC   pain, impotence, loss of libido, fever, inflammation, immunomodulation,
CC   rheumatoid arthritis, skin tannin, acne and other skin disorders,
CC   neuroprotective and cognitive and memory enhancement including the
CC   treatment of Alzheimer's disease, premature labour sexual pain or
CC   dysmenorrhea. The present sequence is a peptide agonist of melanocortin 4
CC   receptor described in the exemplification of the invention
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 5;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 39
ABG33064
ID   ABG33064 standard; peptide; 7 AA.
XX
AC   ABG33064;
XX
DT   27-NOV-2002  (first entry)
XX
DE   Synthetic cyclic heptapeptide melanotan-II (MT-II).
XX
KW   4-substituted acylated piperidine; melanocortin-4 receptor; obesity;
KW   diabetes mellitus; sexual dysfunction; erectile dysfunction; cancer;
KW   hypertension; hyperlipidaemia; osteoarthritis; gall bladder disease;
KW   sleep apnoea; depression; anxiety; compulsion; neurosis; insomnia;
KW   sleep disorder; substance abuse; pain; impotence; libido; fever;
KW   inflammation; immunomodulation; rheumatoid arthritis; skin tannin; acne;
KW   skin disorder; neuroprotective; cognitive; memory enhancement;
KW   Alzheimer's disease; premature labour sexual pain; dysmenorrhoea; cyclic;
KW   circular; heptapeptide; melanotan-II; MT-II.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
```

```
FT   Modified-site  1
FT                  /label= Nle
FT                  /note= "Norleucine, N-terminal acetyl"
FT   Region         2. .7
FT                  /note= "Forms cyclic peptide"
FT   Modified-site  7
FT                  /note= "C-terminal amide"
XX
PN   WO200268388-A2.
XX
PD   06-SEP-2002.
XX
PF   25-FEB-2002; 2002WO-US005724.
XX
PR   28-FEB-2001; 2001US-0272258P.
PR   22-JUN-2001; 2001US-0300118P.
XX
PA   (MERI ) MERCK & CO INC.
XX
PI   Ujjainwalla F, Chu L, Goulet MT, Lee B, Warner D, Wyvratt MJ;
XX
DR   WPI; 2002-706964/76.
XX
PT   New 4-substituted N-acylated piperidine derivatives useful for treating
PT   e.g. obesity.
XX
PS   Disclosure; Page 4; 112pp; English.
XX
CC   The present invention relates to new 4-substituted acylated piperidine
CC   derivatives or their salts. The invention is useful for the treatment or
CC   prevention of disorders, diseases or conditions responsive to the
CC   activation of the melanocortin-4 receptor in a mammal, e.g. obesity,
CC   diabetes mellitus, male or female sexual dysfunction, and erectile
CC   dysfunction, hypertension, hyperlipidaemia, osteoarthritis, cancer, gall
CC   bladder disease, sleep apnoea, depression, anxiety, compulsion, neurosis,
CC   insomnia/sleep disorder, substance abuse, pain, impotence, loss of
CC   libido, fever, inflammation, immunomodulation, rheumatoid arthritis, skin
CC   tannin, acne and other skin disorders, neuroprotective and cognitive and
CC   memory enhancement including the treatment of Alzheimer's disease,
CC   premature labour sexual pain and dysmenorrhoea. The compounds of the
CC   invention are selective agonists of melanocortin-4 receptor. The present
CC   amino acid sequence represents a cyclic melanotan-II (MT-II) peptide, as
CC   described in the invention
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 5;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 40
ABU08224
ID   ABU08224 standard; peptide; 7 AA.
XX
AC   ABU08224;
XX
DT   20-AUG-2003  (first entry)
XX
DE   Synthetic sexual response-inducing peptide #1.
XX
KW   Sexual response; sexual dysfunction; erection; sexual receptivity;
KW   psychogenic erectile dysfunction; libido enhancement.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 1
FT                  /label= Nle
```

```
FT                  /note= "Norleucine"
FT   Modified-site  1
FT                  /note= "N-terminal acetyl"
FT   Misc-difference 4
FT                  /note= "D form residue"
FT   Modified-site  5
FT                  /note= "Chlorinated"
FT   Modified-site  7
FT                  /note= "N terminal amide"
XX
PN   US2003036514-A1.
XX
PD   20-FEB-2003.
XX
PF   18-JUL-2002; 2002US-00198793.
XX
PR   15-AUG-2001; 2001US-0312358P.
XX
PA   (MANN/) MANN M.
PA   (MANN/) MANN M A.
XX
PI   Mann M,  Mann MA;
XX
DR   WPI; 2003-492124/46.
XX
PT   Bringing erection of the penis to an animal involves administering
PT   specific peptides.
XX
PS   Claim 1; Page 7; 8pp; English.
XX
CC   This invention relates to a novel method for bringing erection of the
CC   penis to an animal. This method involves administering synthetic peptides
CC   disclosed in the invention to a subject. The peptides and methods of the
CC   invention may have vasotropic activities. The peptides of the invention
CC   and methods using these peptides may be used to induce erection of the
CC   penis and may be used for diagnosis of psychogenic erectile dysfunction.
CC   The method enhances libido (either by overcoming psychogenic sexual
CC   dysfunction in males or bringing sexual receptivity in females) in
CC   animals. The present sequence represents a synthetic peptide of the
CC   invention which is shown to erection of the penis
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 7;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 41
AAR65784
ID   AAR65784 standard; peptide; 8 AA.
XX
AC   AAR65784;
XX
DT   25-MAR-2003  (revised)
DT   22-JUN-1995  (first entry)
XX
DE   Cyclic petide #2 for treatment of male psychogenic sexual dysfunction.
XX
KW   Linear; cyclic; sexual response; psychogenic sexual dysfunction; male;
KW   penile erection; stomach discomfort.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT                   /note= "Acylated residue"
FT   Modified-site   2
FT                   /note= "Forms peptide linkage with Lys7"
FT   Misc-difference 4
FT                   /note= "D-form residue"
FT   Modified-site   7
FT                   /note= "forms peptide linkage with Asp2"
FT   Modified-site   8
FT                   /note= "Amidated C-terminal"
XX
PN   WO9422460-A1.
XX
PD   13-OCT-1994.
XX
PF   04-APR-1994;   94WO-US003677.
XX
PR   05-APR-1993;   93US-00043159.
XX
PA   (UYPA ) UNIVERSITY PATENTS INC.
XX
PI   Hadley ME;
XX
DR   WPI; 1994-332809/41.
XX
PT   Diagnosis and treatment of male psychogenic sexual dysfunction - by
PT   administering erectogenic amt. of specified hepta- to deca-peptide amide.
XX
PS   Claim 1; Page 20; 24pp; English.
XX
CC   The sequences given in AAR65782-88 are linear and cyclic peptides which
CC   may be used for bringing about a sexual response or for diagnosing
CC   psychogenic sexual dysfunction in males. These peptides specifically
CC   bring about penile erection, however at higher doses some stomach
CC   discomfort was noted. The peptides were prepared by standard methods of
CC   solid phase synthesis. (Updated on 25-MAR-2003 to correct PN field.)
XX
SQ   Sequence 8 AA;

  Query Match             100.0%;  Score 36;  DB 2;  Length 8;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 42
AAR65788
ID   AAR65788 standard; peptide; 8 AA.
XX
AC   AAR65788;
XX
DT   25-MAR-2003  (revised)
DT   22-JUN-1995  (first entry)
XX
DE   Cyclic petide #6 for treatment of male psychogenic sexual dysfunction.
XX
KW   Linear; cyclic; sexual response; psychogenic sexual dysfunction; male;
KW   penile erection; stomach discomfort.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /note= "Acylated residue"
FT   Modified-site   2
FT                   /label= Nle
FT   Modified-site   3
FT                   /note= "Forms peptide linkage with Lys8"
FT   Misc-difference 5
FT                   /note= "D-form residue"
FT   Modified-site   8
FT                   /note= "forms peptide linkage with Asp3, amidated C-
FT                   terminal"
```

```
XX
PN   WO9422460-A1.
XX
PD   13-OCT-1994.
XX
PF   04-APR-1994;   94WO-US003677.
XX
PR   05-APR-1993;   93US-00043159.
XX
PA   (UYPA ) UNIVERSITY PATENTS INC.
XX
PI   Hadley ME;
XX
DR   WPI; 1994-332809/41.
XX
PT   Diagnosis and treatment of male psychogenic sexual dysfunction - by
PT   administering erectogenic amt. of specified hepta- to deca-peptide amide.
XX
PS   Claim 1; Page 20; 24pp; English.
XX
CC   The sequences given in AAR65782-88 are linear and cyclic peptides which
CC   may be used for bringing about a sexual response or for diagnosing
CC   psychogenic sexual dysfunction in males. These peptides specifically
CC   bring about penile erection, however at higher doses some stomach
CC   discomfort was noted. The peptides were prepared by standard methods of
CC   solid phase synthesis. (Updated on 25-MAR-2003 to correct PN field.)
XX
SQ   Sequence 8 AA;

  Query Match             100.0%;  Score 36;  DB 2;  Length 8;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          3 DHFRWK 8


RESULT 43
AAW19927
ID   AAW19927 standard; peptide; 8 AA.
XX
AC   AAW19927;
XX
DT   19-JAN-1998  (first entry)
XX
DE   Erectogenic peptide #7.
XX
KW   Erectogenic peptide; erectile dysfunction; penile erection;
KW   sexual dysfunction; testosterone; impotence; sexual response;
KW   oestrus cycle; coitus; artificial insemination; detumescence;
KW   ejaculation; cyclic.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /note= "N-terminal acetyl"
FT   Modified-site   2
FT                   /label= Nle
FT   Modified-site   3
FT                   /note= "the side chain carboxyl group of Asp3 forms a
FT                   lactam bridge with the epsilon amino group of Lys-NH2 at
FT                   position 8"
FT   Misc-difference 5
FT                   /note= "D-form residue"
FT   Modified-site   8
FT                   /note= "C-terminal amide, the epsilon amino group of Lys8
FT                   -NH2 forms a lactam bridge with the side-chain carboxyl
FT                   group of Asp at position 3"
XX
PN   CA2158425-A.
XX
PD   16-MAR-1997.
XX
PF   15-SEP-1995;   95CA-02158425.
XX
PR   15-SEP-1995;   95CA-02158425.
XX
PA   (HADL/) HADLEY M E.
XX
PI   Hadley ME;
XX
DR   WPI; 1997-320151/30.
XX
PT   Diagnosis and treatment of erectile dysfunction - by administering an
PT   erectogenic peptide containing the sequence Nle-Asp-His-D-Phe-Arg-Trp-
PT   Lys.
XX
PS   Claim 1; Page 28; 32pp; English.
XX
CC   These erectogenic peptides (AAW19921-7) are used in a novel method for
CC   inducing penile erection in an animal. They can be used, in conjunction
CC   with testosterone or another androgen, to treat impotence in elderly men
CC   whose testosterone levels are declining with age. The peptides also
CC   appear to have an effect of increasing sexual response in females. They
CC   may therefore be administered to increase libido in female animals of
CC   rare species in captivity at the proper time in their oestrus cycle to
CC   make them more receptive to coitus. They may also be administered to the
CC   male animal at the same time to induce the erectile response. The
CC   peptides may be used in artificial insemination programmes to encourage
CC   an animal, e.g. a stallion, to mount a mock female phantom used in the
CC   collection of sperm. The peptides invariably induce an erection in men at
CC   low doses (e.g. 1-10 mg) and without any detectable side effects when
CC   administered systemically. The peptides, at low doses, also allow
CC   detumescence following ejaculation
XX
SQ   Sequence 8 AA;

  Query Match             100.0%;  Score 36;  DB 2;  Length 8;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          3 DHFRWK 8


RESULT 44
AAW19923
ID   AAW19923 standard; peptide; 8 AA.
XX
AC   AAW19923;
XX
DT   19-JAN-1998  (first entry)
XX
DE   Erectogenic peptide #3.
XX
KW   Erectogenic peptide; erectile dysfunction; penile erection;
KW   sexual dysfunction; testosterone; impotence; sexual response;
KW   oestrus cycle; coitus; artificial insemination; detumescence;
KW   ejaculation; cyclic.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= Nle
FT                   /note= "N-terminal acetyl"
FT   Modified-site   2
FT                   /note= "the side-chain carboxyl group of Asp2 forms a
FT                   lactam bridge with the epsilon amino group of Lys at
FT                   position 7"
FT   Misc-difference 4
FT                   /note= "D-form residue"
FT   Modified-site   7
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FT                   /note= "the epsilon amino group of Lys7 forms a lactam
FT                   bridge with the side-chain carboxyl group of Asp at
FT                   position 2"
FT   Modified-site   8
FT                   /note= "C-terminal amide"
XX
PN   CA2158425-A.
XX
PD   16-MAR-1997.
XX
PF   15-SEP-1995;    95CA-02158425.
XX
PR   15-SEP-1995;    95CA-02158425.
XX
PA   (HADL/) HADLEY M E.
XX
PI   Hadley ME;
XX
DR   WPI; 1997-320151/30.
XX
PT   Diagnosis and treatment of erectile dysfunction - by administering an
PT   erectogenic peptide containing the sequence Nle-Asp-His-D-Phe-Arg-Trp-
PT   Lys.
XX
PS   Claim 1; Page 28; 32pp; English.
XX
CC   These erectogenic peptides (AAW19921-7) are used in a novel method for
CC   inducing penile erection in an animal. They can be used, in conjunction
CC   with testosterone or another androgen, to treat impotence in elderly men
CC   whose testosterone levels are declining with age. The peptides also
CC   appear to have an effect of increasing sexual response in females. They
CC   may therefore be administered to increase libido in female animals of
CC   rare species in captivity at the proper time in their oestrus cycle to
CC   make them more receptive to coitus. They may also be administered to the
CC   male animal at the same time to induce the erectile response. The
CC   peptides may be used in artificial insemination programmes to encourage
CC   an animal, e.g. a stallion, to mount a mock female phantom used in the
CC   collection of sperm. The peptides invariably induce an erection in men at
CC   low doses (e.g. 1-10 mg) and without any detectable side effects when
CC   administered systemically. The peptides, at low doses, also allow
CC   detumescence following ejaculation
XX
SQ   Sequence 8 AA;

  Query Match             100.0%;  Score 36;  DB 2;  Length 8;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 45
AAW29344
ID   AAW29344 standard; peptide; 8 AA.
XX
AC   AAW29344;
XX
DT   13-JAN-1998  (first entry)
XX
DE   Cyclic human alpha-melanocyte stimulating hormone analogue 24.
XX
KW   Human alpha-melanocyte stimulating hormone; analogue; alpha-MSH;
KW   alpha-melanotropin; proopiomelanocortin; hypopigmentation;
KW   pityriasis alba; tinea versicolor; vitiligo;
KW   idiopathic guttae hypomelanosis; nevus depigmentosus; animal pelt;
KW   cyclic.
XX
OS   Synthetic.
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /note= "N-terminal acetyl"
FT   Modified-site   2
FT                   /label= Nle
FT                   /note= "Norleucine"
FT   Modified-site   3
FT                   /note= "The carboxyl group side chain of Asp at position
FT                   3 forms a lactam bridge with the side chain amino group
FT                   of Lys-NH2 at position 8"
FT   Misc-difference 5
FT                   /note= "D-form residue"
FT   Modified-site   8
FT                   /note= "C-terminal amide; The amino side group chain of
FT                   Lys-NH2 at position 8 forms a lactam bridge with the side
FT                   chain carboxyl group of Asp at position 3"
XX
PN   US5674839-A.
XX
PD   07-OCT-1997.
XX
PF   06-DEC-1994;    94US-00349902.
XX
PR   22-MAY-1987;    87US-00053229.
PR   29-JUN-1988;    88US-00212807.
PR   13-NOV-1990;    90US-00611456.
PR   17-JUL-1992;    92US-00916767.
XX
PA   (COMP-) COMPETITIVE TECHNOLOGIES INC.
XX
PI   Al-Obeidi F,  Hruby VJ,  Hadley ME;
XX
DR   WPI; 1997-502371/46.
XX
PT   New cyclic peptide analogues of alpha-melanocyte stimulating hormone -
PT   for treatment of hypo:pigmentation and for darkening human hair or animal
PT   pelts, have prolonged action.
XX
PS   Claim 1; Col 43; 23pp; English.
XX
CC   This peptide is a synthetic, cyclic analogue of human alpha melanocyte
CC   stimulating hormone (alpha-MSH). It is used to stimulate mammalian
CC   melanocytes to produce integumental melanin, i.e. to treat
CC   hypopigmentation such as pityriasis alba, tinea versicolor, vitiligo,
CC   idiopathic guttae hypomelanosis and nevus depigmentosus. It can also be
CC   used to darken grey hair and to increase the value of animal pelts. The
CC   peptide can replace alpha-MSH, or its Nle4 analogue, in all diagnostic,
CC   therapeutic and research applications, e.g. localisation/
CC   characterisation of melanoma cells, and as ligand to deliver anticancer
CC   or diagnostic agents. Also treatment with the peptide darkens the skin
CC   without any exposure to UV light. In a bioassay on frog skin the present
CC   peptide showed prolonged activity and had a melanocyte dispersion
CC   activity of 1.0, (identical to native alpha-MSH)
XX
SQ   Sequence 8 AA;

  Query Match             100.0%;  Score 36;  DB 2;  Length 8;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          3 DHFRWK 8


Search completed: May 18, 2004, 15:54:59
Job time : 55 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: May 18, 2004, 15:55:06 ; Search time 23 Seconds
(without alignments)
13.468 Million cell updates/sec

Title: CLAIM11
Perfect score: 36
Sequence: 1 DHXRWK 6

Scoring table: BLOSUM62DX
Gapop 10.0 , Gapext 0.5

Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 103740

Minimum DB seq length: 0
Maximum DB seq length: 10

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued_Patents_AA:*
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3: /cgn2_6/ptodata/2/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	36	100.0	7	1	US-08-349-902B-8	Sequence 8, Appli
2	36	100.0	7	1	US-08-349-902B-15	Sequence 15, Appl
3	36	100.0	7	1	US-08-349-902B-18	Sequence 18, Appl
4	36	100.0	7	1	US-08-349-902B-26	Sequence 26, Appl
5	36	100.0	7	1	US-08-420-972A-1	Sequence 1, Appli
6	36	100.0	7	1	US-08-420-972A-2	Sequence 2, Appli
7	36	100.0	7	3	US-08-980-238B-8	Sequence 8, Appli
8	36	100.0	7	3	US-08-980-238B-9	Sequence 9, Appli
9	36	100.0	7	3	US-08-980-238B-12	Sequence 12, Appl
10	36	100.0	7	3	US-08-893-749-1	Sequence 1, Appli
11	36	100.0	7	4	US-09-240-078-54	Sequence 54, Appl
12	36	100.0	7	4	US-09-374-827-5	Sequence 5, Appli
13	36	100.0	7	4	US-09-374-827-6	Sequence 6, Appli
14	36	100.0	8	1	US-08-349-902B-25	Sequence 25, Appl
15	36	100.0	8	1	US-08-349-902B-27	Sequence 27, Appl
16	36	100.0	9	1	US-08-349-902B-24	Sequence 24, Appl
17	36	100.0	9	1	US-08-349-902B-28	Sequence 28, Appl
18	36	100.0	9	1	US-08-349-902B-33	Sequence 33, Appl
19	36	100.0	9	3	US-08-893-749-30	Sequence 30, Appl
20	36	100.0	10	1	US-08-349-902B-5	Sequence 5, Appli
21	36	100.0	10	1	US-08-349-902B-23	Sequence 23, Appl
22	36	100.0	10	1	US-08-349-902B-29	Sequence 29, Appl
23	36	100.0	10	1	US-08-349-902B-34	Sequence 34, Appl
24	36	100.0	10	3	US-08-893-749-9	Sequence 9, Appli
25	36	100.0	10	3	US-08-893-749-31	Sequence 31, Appl
26	32	88.9	7	1	US-08-349-902B-7	Sequence 7, Appli
27	32	88.9	7	1	US-08-349-902B-14	Sequence 14, Appl
28	32	88.9	7	1	US-08-349-902B-17	Sequence 17, Appl
29	32	88.9	10	1	US-08-349-902B-4	Sequence 4, Appli
30	32	88.9	10	1	US-08-349-902B-16	Sequence 16, Appl
31	31	86.1	7	1	US-08-349-902B-6	Sequence 6, Appli
32	31	86.1	7	1	US-08-349-902B-10	Sequence 10, Appl
33	31	86.1	7	1	US-08-349-902B-12	Sequence 12, Appl
34	31	86.1	7	1	US-08-349-902B-13	Sequence 13, Appl
35	31	86.1	7	1	US-08-349-902B-19	Sequence 19, Appl
36	31	86.1	7	1	US-08-349-902B-20	Sequence 20, Appl
37	31	86.1	7	1	US-08-349-902B-21	Sequence 21, Appl
38	30	83.3	6	4	US-09-240-078-55	Sequence 55, Appl
39	28	77.8	8	3	US-09-147-915-5	Sequence 5, Appli
40	27	75.0	5	4	US-09-374-827-1	Sequence 1, Appli
41	27	75.0	6	4	US-09-353-650-1	Sequence 1, Appli
42	27	75.0	6	4	US-09-353-650-2	Sequence 2, Appli
43	27	75.0	6	6	5472855-19	Patent No. 5472855
44	27	75.0	7	1	US-08-349-902B-9	Sequence 9, Appli
45	27	75.0	7	1	US-08-349-902B-11	Sequence 11, Appl

ALIGNMENTS

```
RESULT 1
US-08-349-902B-8
; Sequence 8, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  8:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 1 is
;      OTHER INFORMATION:  No. 5674839leucine; position 4 is D-phenylaline
US-08-349-902B-8

  Query Match           100.0%;  Score 36;  DB 1;  Length 7;
  Best Local Similarity  100.0%;  Pred. No. 3e+05;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
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```

```
Db          2 DHXRWK 7


RESULT 2
US-08-349-902B-15
; Sequence 15, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  15:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 1 is
;      OTHER INFORMATION:  No. 5674839leucine;
US-08-349-902B-15

  Query Match             100.0%;  Score 36;  DB 1;  Length 7;
  Best Local Similarity    83.3%;  Pred. No. 3e+05;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 3
US-08-349-902B-18
; Sequence 18, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  18:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  cyclic
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 1 is
;      OTHER INFORMATION:  No. 5674839leucine; position 4 is D-phenylaline
US-08-349-902B-18

  Query Match             100.0%;  Score 36;  DB 1;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 3e+05;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          2 DHXRWK 7


RESULT 4
US-08-349-902B-26
; Sequence 26, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
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;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  26:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
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;      TOPOLOGY:  cyclic
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 1 is
;      OTHER INFORMATION:  No. 5674839leucine; position 4 is D-phenylaline
US-08-349-902B-26

  Query Match             100.0%;  Score 36;  DB 1;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 3e+05;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          2 DHXRWK 7


RESULT 5
US-08-420-972A-1
; Sequence 1, Application US/08420972A
; Patent No. 5731408
;  GENERAL INFORMATION:
;    APPLICANT:  Mac E. Hadley, Victor J. Hruby and Shubh Sharma
;    TITLE OF INVENTION:  PEPTIDES HAVING POTENT ANTAGONIST AND
;    TITLE OF INVENTION:  AGONIST BIOACTIVITIES AT MELANOCORTIN RECEPTORS
;    NUMBER OF SEQUENCES:  3
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/420,972A
;      FILING DATE:  April 10th 1995
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA1316
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  cyclic
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  cyclic from position 2 to position 7;
;      OTHER INFORMATION:  Xaa at position 1 is norleucine; Xaa at positon 4 is D-2'-nap
US-08-420-972A-1

  Query Match             100.0%;  Score 36;  DB 1;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 3e+05;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          2 DHXRWK 7


RESULT 6
US-08-420-972A-2
; Sequence 2, Application US/08420972A
; Patent No. 5731408
;  GENERAL INFORMATION:
;    APPLICANT:  Mac E. Hadley, Victor J. Hruby and Shubh Sharma
;    TITLE OF INVENTION:  PEPTIDES HAVING POTENT ANTAGONIST AND
;    TITLE OF INVENTION:  AGONIST BIOACTIVITIES AT MELANOCORTIN RECEPTORS
;    NUMBER OF SEQUENCES:  3
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/420,972A
;      FILING DATE:  April 10th 1995
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA1316
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  cyclic
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  cyclic from position 2 to position 7;
;      OTHER INFORMATION:  Xaa at position 1 is norleucine; Xaa at positon 4 is D-para-ic
US-08-420-972A-2

  Query Match             100.0%;  Score 36;  DB 1;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 3e+05;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          2 DHXRWK 7


RESULT 7
US-08-980-238B-8
; Sequence 8, Application US/08980238B
; Patent No. 6054556
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Melanocortin Receptor Antagonists and Agonists
;    NUMBER OF SEQUENCES:  16
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 6.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/980,238B
;      FILING DATE:  No. 6054556ember 27th 1997
;      CLASSIFICATION:  530
```

```
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 1558
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  8:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  cyclic
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  Position 1 is No. 6054556leucine; position
;      OTHER INFORMATION:  4 is (2R,3R)-a-Me-Naphthylalanine; peptide is cyclic between
US-08-980-238B-8

  Query Match             100.0%;  Score 36;  DB 3;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 3e+05;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          2 DHXRWK 7


RESULT 8
US-08-980-238B-9
; Sequence 9, Application US/08980238B
; Patent No. 6054556
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Melanocortin Receptor Antagonists and Agonists
;    NUMBER OF SEQUENCES:  16
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 6.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/980,238B
;      FILING DATE:  No. 6054556ember 27th 1997
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 1558
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  9:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  cyclic
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  Position 1 is No. 6054556leucine; position
;      OTHER INFORMATION:  4 is (2R,3S)-a-Me-Naphthylalanine; peptide is cyclic between
US-08-980-238B-9

  Query Match             100.0%;  Score 36;  DB 3;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 3e+05;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          2 DHXRWK 7


RESULT 9
US-08-980-238B-12
; Sequence 12, Application US/08980238B
; Patent No. 6054556
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Melanocortin Receptor Antagonists and Agonists
;    NUMBER OF SEQUENCES:  16
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 6.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/980,238B
;      FILING DATE:  No. 6054556ember 27th 1997
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 1558
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  12:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  cyclic
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  Position 1 is No. 6054556leucine; position
;      OTHER INFORMATION:  4 is Naphthylalanine; peptide is cyclic between positions 2 a
US-08-980-238B-12

  Query Match             100.0%;  Score 36;  DB 3;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 3e+05;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          2 DHXRWK 7


RESULT 10
US-08-893-749-1
; Sequence 1, Application US/08893749
; Patent No. 6126916
;  GENERAL INFORMATION:
;    APPLICANT:  MCBRIDE, William J.
;    APPLICANT:  GRIFFITHS, Gary L.
;    TITLE OF INVENTION:  RADIOMETAL-BINDING PEPTIDE ANALOGUES
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  FOLEY & LARDNER
;      STREET:  3000 K Street, N.W.
;      CITY:  Washington
;      STATE:  D.C.
```

```
;       COUNTRY:  U.S.A.
;       ZIP:  20007-5109
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  Floppy disk
;       COMPUTER:  IBM PC compatible
;       OPERATING SYSTEM:  PC-DOS/MS-DOS
;       SOFTWARE:  PatentIn Release #1.0, Version #1.30
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/893,749
;       FILING DATE:  11-JUL-1997
;       CLASSIFICATION:  530
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 60/021,662
;       FILING DATE:  12-JUL-1996
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Saxe, Bern D.
;       REGISTRATION NUMBER:  28,665
;       REFERENCE/DOCKET NUMBER:  018733/0804
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (202) 672-5300
;       TELEFAX:  (202) 672-5399
;   INFORMATION FOR SEQ ID NO:  1:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  7 amino acids
;       TYPE:  amino acid
;       STRANDEDNESS:
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  peptide
;     FEATURE:
;       NAME/KEY:  Modified-site
;       LOCATION:  1
;       OTHER INFORMATION:  /product= "Nle"
;     FEATURE:
;       NAME/KEY:  Modified-site
;       LOCATION:  4
;       OTHER INFORMATION:  /note= "Xaa is D-Phe"
US-08-893-749-1

  Query Match             100.0%;  Score 36;  DB 3;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 3e+05;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          2 DHXRWK 7


RESULT 11
US-09-240-078-54
; Sequence 54, Application US/09240078
; Patent No. 6303749
; GENERAL INFORMATION:
;  APPLICANT: Jarosinski, Mark A.
;  TITLE OF INVENTION: No. 6303749el Agouti and Agouti-Related Peptide Analogs
;  FILE REFERENCE: A-569
;  CURRENT APPLICATION NUMBER: US/09/240,078
;  CURRENT FILING DATE: 1999-01-29
;  NUMBER OF SEQ ID NOS: 55
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 54
;   LENGTH: 7
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   NAME/KEY: PEPTIDE
;   LOCATION: (1)
;   OTHER INFORMATION: Xaa in position 1 represents norleucine, a
;   OTHER INFORMATION: synthetic amino acid.
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: AGRP Peptide
;   OTHER INFORMATION: Analog
US-09-240-078-54

  Query Match             100.0%;  Score 36;  DB 4;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 3e+05;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 12
US-09-374-827-5
; Sequence 5, Application US/09374827
; Patent No. 6603058
; GENERAL INFORMATION:
;  APPLICANT: Brennan, Miles B.
;  APPLICANT: Hochgeschwender, Ute
;  TITLE OF INVENTION: "NON-HUMAN ANIMAL MODEL FOR OBESITY AND USES THEREOF"
;  FILE REFERENCE: 3718-5
;  CURRENT APPLICATION NUMBER: US/09/374,827
;  CURRENT FILING DATE: 1999-08-12
;  EARLIER APPLICATION NUMBER: 60/111,581
;  EARLIER FILING DATE: 1998-12-09
;  EARLIER APPLICATION NUMBER: 60/146,306
;  EARLIER FILING DATE: 1999-07-29
;  NUMBER OF SEQ ID NOS: 8
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 5
;   LENGTH: 7
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   NAME/KEY: MOD_RES
;   LOCATION: (1)
;   OTHER INFORMATION: Nle
;   FEATURE:
;   NAME/KEY: MOD_RES
;   LOCATION: (4)
;   OTHER INFORMATION: Xaa = D-naphthylalanine
;   FEATURE:
;   NAME/KEY: PEPTIDE
;   LOCATION: (1)..(7)
;   OTHER INFORMATION: analog
US-09-374-827-5

  Query Match             100.0%;  Score 36;  DB 4;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 3e+05;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          2 DHXRWK 7


RESULT 13
US-09-374-827-6
; Sequence 6, Application US/09374827
; Patent No. 6603058
; GENERAL INFORMATION:
;  APPLICANT: Brennan, Miles B.
;  APPLICANT: Hochgeschwender, Ute
;  TITLE OF INVENTION: "NON-HUMAN ANIMAL MODEL FOR OBESITY AND USES THEREOF"
;  FILE REFERENCE: 3718-5
;  CURRENT APPLICATION NUMBER: US/09/374,827
;  CURRENT FILING DATE: 1999-08-12
;  EARLIER APPLICATION NUMBER: 60/111,581
;  EARLIER FILING DATE: 1998-12-09
;  EARLIER APPLICATION NUMBER: 60/146,306
;  EARLIER FILING DATE: 1999-07-29
;  NUMBER OF SEQ ID NOS: 8
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 6
;   LENGTH: 7
;   TYPE: PRT
```

```
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   NAME/KEY: MOD_RES
;   LOCATION: (1)
;   OTHER INFORMATION: Xaa = Nle
;   FEATURE:
;   NAME/KEY: MOD_RES
;   LOCATION: (4)
;   OTHER INFORMATION: Phe = D-para-iodo-phenylalanine
;   FEATURE:
;   NAME/KEY: PEPTIDE
;   LOCATION: (1)..(7)
;   OTHER INFORMATION: analog
US-09-374-827-6

  Query Match             100.0%;  Score 36;  DB 4;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 3e+05;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 14
US-08-349-902B-25
; Sequence 25, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  25:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  8 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  cyclic
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 2 is
;      OTHER INFORMATION:  No. 5674839leucine; position 5 is D-phenylaline
US-08-349-902B-25

  Query Match             100.0%;  Score 36;  DB 1;  Length 8;
  Best Local Similarity   100.0%;  Pred. No. 3e+05;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          3 DHXRWK 8


RESULT 15
US-08-349-902B-27
; Sequence 27, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  27:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  8 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  cyclic
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 1 is
;      OTHER INFORMATION:  No. 5674839leucine; position 4 is D-phenylaline
US-08-349-902B-27

  Query Match             100.0%;  Score 36;  DB 1;  Length 8;
  Best Local Similarity   100.0%;  Pred. No. 3e+05;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          2 DHXRWK 7


RESULT 16
US-08-349-902B-24
; Sequence 24, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
```

```
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  24:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  9 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  cyclic
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 3 is
;      OTHER INFORMATION:  No. 5674839leucine; position 6 is D-phenylaline
US-08-349-902B-24

  Query Match             100.0%;  Score 36;  DB 1;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 3e+05;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          4 DHXRWK 9


RESULT 17
US-08-349-902B-28
; Sequence 28, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  28:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  9 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  cyclic
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 1 is
;      OTHER INFORMATION:  No. 5674839leucine; position 4 is D-phenylaline
US-08-349-902B-28

  Query Match             100.0%;  Score 36;  DB 1;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 3e+05;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          2 DHXRWK 7


RESULT 18
US-08-349-902B-33
; Sequence 33, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  33:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  9 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  cyclic
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 3 is
;      OTHER INFORMATION:  No. 5674839leucine; position 6 is D-phenylaline
US-08-349-902B-33

  Query Match             100.0%;  Score 36;  DB 1;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 3e+05;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          4 DHXRWK 9


RESULT 19
US-08-893-749-30
; Sequence 30, Application US/08893749
```

```
; Patent No. 6126916
;  GENERAL INFORMATION:
;    APPLICANT:  MCBRIDE, William J.
;    APPLICANT:  GRIFFITHS, Gary L.
;    TITLE OF INVENTION:  RADIOMETAL-BINDING PEPTIDE ANALOGUES
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  FOLEY & LARDNER
;      STREET:  3000 K Street, N.W.
;      CITY:  Washington
;      STATE:  D.C.
;      COUNTRY:  U.S.A.
;      ZIP:  20007-5109
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/893,749
;      FILING DATE:  11-JUL-1997
;      CLASSIFICATION:  530
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/021,662
;      FILING DATE:  12-JUL-1996
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Saxe, Bern D.
;      REGISTRATION NUMBER:  28,665
;      REFERENCE/DOCKET NUMBER:  018733/0804
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (202) 672-5300
;      TELEFAX:  (202) 672-5399
;  INFORMATION FOR SEQ ID NO:  30:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  9 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      NAME/KEY:  Modified-site
;      LOCATION:  3
;      OTHER INFORMATION:  /product= "Nle"
;    FEATURE:
;      NAME/KEY:  Modified-site
;      LOCATION:  6
;      OTHER INFORMATION:  /note= "Xaa is D-Phe"
US-08-893-749-30

  Query Match             100.0%;  Score 36;  DB 3;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 3e+05;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          4 DHXRWK 9


RESULT 20
US-08-349-902B-5
; Sequence 5, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  5:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 1 is
;      OTHER INFORMATION:  No. 5674839leucine; position 4 is D-phenylaline
US-08-349-902B-5

  Query Match             100.0%;  Score 36;  DB 1;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 2.1;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          2 DHXRWK 7


RESULT 21
US-08-349-902B-23
; Sequence 23, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  23:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
```

```
;       TYPE:  amino acid
;       STRANDEDNESS:  single
;       TOPOLOGY:  cyclic
;     MOLECULE TYPE:  peptide
;     FEATURE:
;       OTHER INFORMATION:  position 4 is
;       OTHER INFORMATION:  No. 5674839leucine; position 7 is D-phenylaline
US-08-349-902B-23

  Query Match             100.0%;  Score 36;  DB 1;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 2.1;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          5 DHXRWK 10


RESULT 22
US-08-349-902B-29
; Sequence 29, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  29:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  cyclic
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 1 is
;      OTHER INFORMATION:  No. 5674839leucine; position 4 is D-phenylaline
US-08-349-902B-29

  Query Match             100.0%;  Score 36;  DB 1;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 2.1;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          2 DHXRWK 7


RESULT 23
US-08-349-902B-34
; Sequence 34, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  34:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  cyclic
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 4 is
;      OTHER INFORMATION:  No. 5674839leucine; position 7 is D-phenylaline
US-08-349-902B-34

  Query Match             100.0%;  Score 36;  DB 1;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 2.1;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          5 DHXRWK 10


RESULT 24
US-08-893-749-9
; Sequence 9, Application US/08893749
; Patent No. 6126916
;  GENERAL INFORMATION:
;    APPLICANT:  MCBRIDE, William J.
;    APPLICANT:  GRIFFITHS, Gary L.
;    TITLE OF INVENTION:  RADIOMETAL-BINDING PEPTIDE ANALOGUES
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  FOLEY & LARDNER
;      STREET:  3000 K Street, N.W.
;      CITY:  Washington
;      STATE:  D.C.
;      COUNTRY:  U.S.A.
;      ZIP:  20007-5109
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
```

```
;       APPLICATION NUMBER:  US/08/893,749
;       FILING DATE:  11-JUL-1997
;       CLASSIFICATION:  530
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 60/021,662
;       FILING DATE:  12-JUL-1996
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Saxe, Bern D.
;       REGISTRATION NUMBER:  28,665
;       REFERENCE/DOCKET NUMBER:  018733/0804
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (202) 672-5300
;       TELEFAX:  (202) 672-5399
;   INFORMATION FOR SEQ ID NO:  9:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  10 amino acids
;       TYPE:  amino acid
;       STRANDEDNESS:
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  peptide
;     FEATURE:
;       NAME/KEY:  Modified-site
;       LOCATION:  4
;       OTHER INFORMATION:  /product= "Nle"
;     FEATURE:
;       NAME/KEY:  Modified-site
;       LOCATION:  7
;       OTHER INFORMATION:  /note= "Xaa is D-Phe"
US-08-893-749-9

  Query Match             100.0%;  Score 36;  DB 3;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 2.1;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          5 DHXRWK 10


RESULT 25
US-08-893-749-31
; Sequence 31, Application US/08893749
; Patent No. 6126916
;  GENERAL INFORMATION:
;    APPLICANT:  MCBRIDE, William J.
;    APPLICANT:  GRIFFITHS, Gary L.
;    TITLE OF INVENTION:  RADIOMETAL-BINDING PEPTIDE ANALOGUES
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  FOLEY & LARDNER
;      STREET:  3000 K Street, N.W.
;      CITY:  Washington
;      STATE:  D.C.
;      COUNTRY:  U.S.A.
;      ZIP:  20007-5109
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/893,749
;      FILING DATE:  11-JUL-1997
;      CLASSIFICATION:  530
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/021,662
;      FILING DATE:  12-JUL-1996
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Saxe, Bern D.
;      REGISTRATION NUMBER:  28,665
;      REFERENCE/DOCKET NUMBER:  018733/0804
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (202) 672-5300
;      TELEFAX:  (202) 672-5399
;  INFORMATION FOR SEQ ID NO:  31:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      NAME/KEY:  Modified-site
;      LOCATION:  4
;      OTHER INFORMATION:  /product= "Nle"
;    FEATURE:
;      NAME/KEY:  Modified-site
;      LOCATION:  7
;      OTHER INFORMATION:  /note= "Xaa is D-Phe"
US-08-893-749-31

  Query Match             100.0%;  Score 36;  DB 3;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 2.1;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||||||
Db          5 DHXRWK 10


RESULT 26
US-08-349-902B-7
; Sequence 7, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  7:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 1 is
;      OTHER INFORMATION:  No. 5674839leucine; position 4 is D-phenylaline
US-08-349-902B-7

  Query Match             88.9%;  Score 32;  DB 1;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 3e+05;
```

```
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              :|||||
Db          2 EHXRWK 7


RESULT 27
US-08-349-902B-14
; Sequence 14, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  14:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 1 is
;      OTHER INFORMATION:  No. 5674839leucine
US-08-349-902B-14

  Query Match             88.9%;  Score 32;  DB 1;  Length 7;
  Best Local Similarity   66.7%;  Pred. No. 3e+05;
  Matches    4;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              :|:|||
Db          2 EHFRWK 7


RESULT 28
US-08-349-902B-17
; Sequence 17, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  17:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  cyclic
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 1 is
;      OTHER INFORMATION:  No. 5674839leucine; position 4 is D-phenylaline
US-08-349-902B-17

  Query Match             88.9%;  Score 32;  DB 1;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 3e+05;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              :|||||
Db          2 EHXRWK 7


RESULT 29
US-08-349-902B-4
; Sequence 4, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  4:
```

```
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 1 is
;      OTHER INFORMATION:  No. 5674839leucine; position 4 is D-phenylaline
US-08-349-902B-4

  Query Match             88.9%;  Score 32;  DB 1;  Length 10;
  Best Local Similarity   83.3%;  Pred. No. 9.8;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              :|||||
Db          2 EHXRWK 7


RESULT 30
US-08-349-902B-16
; Sequence 16, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  16:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  cyclic
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 1 is
;      OTHER INFORMATION:  No. 5674839leucine; position 4 is D-phenylaline
US-08-349-902B-16

  Query Match             88.9%;  Score 32;  DB 1;  Length 10;
  Best Local Similarity   83.3%;  Pred. No. 9.8;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              :|||||
Db          2 EHXRWK 7


RESULT 31
US-08-349-902B-6
; Sequence 6, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7 amino acids
;      TYPE:  amio acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 1 is
;      OTHER INFORMATION:  No. 5674839leucine; position 4 is D-phenylaline
US-08-349-902B-6

  Query Match             86.1%;  Score 31;  DB 1;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 3e+05;
  Matches    5;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              |||||
Db          2 DHXRW 6


RESULT 32
US-08-349-902B-10
; Sequence 10, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
```

```
;       SOFTWARE:  Microsoft Word 5.0
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/349,902B
;       FILING DATE:  6-DEC-1994
;       CLASSIFICATION:  530
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  George M. Yahwak
;       REGISTRATION NUMBER:  26,824
;       REFERENCE/DOCKET NUMBER:  UA 816 CIP
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (203)268-1951
;       TELEFAX:  (203)268-1951
;   INFORMATION FOR SEQ ID NO:  10:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  7 amino acids
;       TYPE:  amino acid
;       STRANDEDNESS:  single
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  peptide
;     FEATURE:
;       OTHER INFORMATION:  position 1 is
;       OTHER INFORMATION:  No. 5674839leucine; position 4 is D-phenylaline;
;       OTHER INFORMATION:  position 7 is Ornithine
US-08-349-902B-10

  Query Match             86.1%;  Score 31;  DB 1;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 3e+05;
  Matches    5;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              |||||
Db          2 DHXRW 6


RESULT 33
US-08-349-902B-12
; Sequence 12, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  12:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 1 is
;      OTHER INFORMATION:  No. 5674839leucine; position 4 is D-phenylaline;
;      OTHER INFORMATION:  position 7 is 2,4-diaminobutyric acid
US-08-349-902B-12

  Query Match             86.1%;  Score 31;  DB 1;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 3e+05;
  Matches    5;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              |||||
Db          2 DHXRW 6


RESULT 34
US-08-349-902B-13
; Sequence 13, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  13:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 1 is
;      OTHER INFORMATION:  No. 5674839leucine; position 4 is D-phenylaline;
;      OTHER INFORMATION:  position 7 is 2,3-diaminopropionic acid
US-08-349-902B-13

  Query Match             86.1%;  Score 31;  DB 1;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 3e+05;
  Matches    5;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              |||||
Db          2 DHXRW 6


RESULT 35
US-08-349-902B-19
; Sequence 19, Application US/08349902B
; Patent No. 5674839
```

```
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  19:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  cyclic
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 1 is
;      OTHER INFORMATION:  No. 5674839leucine; position 4 is D-phenylaline;
;      OTHER INFORMATION:  position 7 is Ornithine
US-08-349-902B-19

  Query Match             86.1%;  Score 31;  DB 1;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 3e+05;
  Matches    5;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              |||||
Db          2 DHXRW 6


RESULT 36
US-08-349-902B-20
; Sequence 20, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  20:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  cyclic
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 1 is
;      OTHER INFORMATION:  No. 5674839leucine; position 4 is D-phenylaline;
;      OTHER INFORMATION:  position 7 is 2,4-diaminobutyric acid
US-08-349-902B-20

  Query Match             86.1%;  Score 31;  DB 1;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 3e+05;
  Matches    5;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              |||||
Db          2 DHXRW 6


RESULT 37
US-08-349-902B-21
; Sequence 21, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  21:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  cyclic
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 1 is No. 5674839leucine;
;      OTHER INFORMATION:  position 4 is D-phenylaline;position 7 is
```

```
;      OTHER INFORMATION:  2,4-diaminopropionic acid
US-08-349-902B-21

  Query Match             86.1%;  Score 31;  DB 1;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 3e+05;
  Matches    5;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              |||||
Db          2 DHXRW 6


RESULT 38
US-09-240-078-55
; Sequence 55, Application US/09240078
; Patent No. 6303749
; GENERAL INFORMATION:
;  APPLICANT: Jarosinski, Mark A.
;  TITLE OF INVENTION: No. 6303749el Agouti and Agouti-Related Peptide Analogs
;  FILE REFERENCE: A-569
;  CURRENT APPLICATION NUMBER: US/09/240,078
;  CURRENT FILING DATE: 1999-01-29
;  NUMBER OF SEQ ID NOS: 55
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 55
;    LENGTH: 6
;    TYPE: PRT
;    ORGANISM: Artificial Sequence
;    FEATURE:
;    NAME/KEY: PEPTIDE
;    LOCATION: (1)
;    OTHER INFORMATION: Xaa in position 1 represents norleucine, a
;    OTHER INFORMATION: synthetic amino acid.
;    FEATURE:
;    OTHER INFORMATION: Description of Artificial Sequence: AGRP Peptide
;    OTHER INFORMATION: Analog
US-09-240-078-55

  Query Match             83.3%;  Score 30;  DB 4;  Length 6;
  Best Local Similarity   80.0%;  Pred. No. 3e+05;
  Matches    4;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 HXRWK 6
              |:|||
Db          2 HFRWK 6


RESULT 39
US-09-147-915-5
; Sequence 5, Application US/09147915A
; Patent No. 6184034
; GENERAL INFORMATION:
;  APPLICANT: Eastman, Alan
;  APPLICANT: Krieser, Ronald
;  TITLE OF INVENTION: Deoxyribonuclease II Proteins and cDNAs
;  FILE REFERENCE: DC-0097
;  CURRENT APPLICATION NUMBER: US/09/147,915A
;  CURRENT FILING DATE: 1999-03-23
;  EARLIER APPLICATION NUMBER: PCT/US97/18262
;  EARLIER FILING DATE: 1997-10-09
;  EARLIER APPLICATION NUMBER: 60/028,539
;  EARLIER FILING DATE: 1996-10-15
;  NUMBER OF SEQ ID NOS: 18
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 5
;    LENGTH: 8
;    TYPE: PRT
;    ORGANISM: Sus sp.
US-09-147-915-5

  Query Match             77.8%;  Score 28;  DB 3;  Length 8;
  Best Local Similarity   60.0%;  Pred. No. 3e+05;
  Matches    3;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              ||:.|
Db          4 DHSKW 8


RESULT 40
US-09-374-827-1
; Sequence 1, Application US/09374827
; Patent No. 6603058
; GENERAL INFORMATION:
;  APPLICANT: Brennan, Miles B.
;  APPLICANT: Hochgeschwender, Ute
;  TITLE OF INVENTION: "NON-HUMAN ANIMAL MODEL FOR OBESITY AND USES THEREOF"
;  FILE REFERENCE: 3718-5
;  CURRENT APPLICATION NUMBER: US/09/374,827
;  CURRENT FILING DATE: 1999-08-12
;  EARLIER APPLICATION NUMBER: 60/111,581
;  EARLIER FILING DATE: 1998-12-09
;  EARLIER APPLICATION NUMBER: 60/146,306
;  EARLIER FILING DATE: 1999-07-29
;  NUMBER OF SEQ ID NOS: 8
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1
;    LENGTH: 5
;    TYPE: PRT
;    ORGANISM: Artificial Sequence
;    FEATURE:
;    NAME/KEY: DOMAIN
;    LOCATION: (1)..(5)
;    OTHER INFORMATION: conserved region
US-09-374-827-1

  Query Match             75.0%;  Score 27;  DB 4;  Length 5;
  Best Local Similarity   60.0%;  Pred. No. 3e+05;
  Matches    3;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              :|:||
Db          1 EHFRW 5


RESULT 41
US-09-353-650-1
; Sequence 1, Application US/09353650
; Patent No. 6337315
; GENERAL INFORMATION:
;  APPLICANT: MAHE, Yann
;  APPLICANT: BILLONI, Nelly
;  APPLICANT: BRETON, Lionel
;  APPLICANT: BUI-BERTRAND, Lien
;  TITLE OF INVENTION: ANTI-INFLAMMATORY COMPOSITIONS COMPRISING PEPTIDE
;  TITLE OF INVENTION: DERIVATIVES OF ALPHA-MSH/ALGAL EXTRACTS
;  FILE REFERENCE: 016800-303
;  CURRENT APPLICATION NUMBER: US/09/353,650
;  CURRENT FILING DATE: 1999-07-15
;  EARLIER APPLICATION NUMBER: FR 98-09055
;  EARLIER FILING DATE: 1998-07-15
;  NUMBER OF SEQ ID NOS: 4
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1
;    LENGTH: 6
;    TYPE: PRT
;    ORGANISM: Artificial Sequence
;    FEATURE:
;    NAME/KEY: PEPTIDE
;    LOCATION: (3)
;    OTHER INFORMATION: Amino acid 3 is xaa wherein xaa = D.homoPhe.
;    FEATURE:
;    OTHER INFORMATION: Description of Artificial
;    OTHER INFORMATION: Sequence:anti-inflammatory activity from alpha-MSH
;    OTHER INFORMATION: conjugated to thioctic acid.
US-09-353-650-1
```

```
  Query Match             75.0%;  Score 27;  DB 4;  Length 6;
  Best Local Similarity   80.0%;  Pred. No. 3e+05;
  Matches    4;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              :||||
Db          1 EHXRW 5


RESULT 42
US-09-353-650-2
; Sequence 2, Application US/09353650
; Patent No. 6337315
; GENERAL INFORMATION:
;  APPLICANT: MAHE, Yann
;  APPLICANT: BILLONI, Nelly
;  APPLICANT: BRETON, Lionel
;  APPLICANT: BUI-BERTRAND, Lien
;  TITLE OF INVENTION: ANTI-INFLAMMATORY COMPOSITIONS COMPRISING PEPTIDE
;  TITLE OF INVENTION: DERIVATIVES OF ALPHA-MSH/ALGAL EXTRACTS
;  FILE REFERENCE: 016800-303
;  CURRENT APPLICATION NUMBER: US/09/353,650
;  CURRENT FILING DATE: 1999-07-15
;  EARLIER APPLICATION NUMBER: FR 98-09055
;  EARLIER FILING DATE: 1998-07-15
;  NUMBER OF SEQ ID NOS: 4
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 2
;   LENGTH: 6
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   NAME/KEY: PEPTIDE
;   LOCATION: (3)
;   OTHER INFORMATION: Amino acid 3 is xaa wherein xaa = ParaFluoroPhe.
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial
;   OTHER INFORMATION: Sequence:anti-inflammatory activity from alpha-MSH
;   OTHER INFORMATION: conjugated to thioctic acid.
US-09-353-650-2

  Query Match             75.0%;  Score 27;  DB 4;  Length 6;
  Best Local Similarity   80.0%;  Pred. No. 3e+05;
  Matches    4;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              :||||
Db          1 EHXRW 5


RESULT 43
5472855-19
;Patent No. 5472855
;     APPLICANT: CARTER, PAUL J.;WELLS, JAMES A.
;     TITLE OF INVENTION: SUBSTRATE ASSISTED CATALYSIS
;     NUMBER OF SEQUENCES: 31
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/287,964
;       FILING DATE: 22-SEP-1994
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER: 90,902
;       FILING DATE: 12-JUL-1993
;       APPLICATION NUMBER: 823,039
;       FILING DATE: 14-JAN-1992
;       APPLICATION NUMBER: 35,652
;       FILING DATE: 06-APR-1987
;       APPLICATION NUMBER: 334,081
;       FILING DATE: 04-APR-1989
;       APPLICATION NUMBER: 127,134
;       FILING DATE: 01-DEC-1987
;       APPLICATION NUMBER: 846,627
;       FILING DATE: 01-APR-1986
;       APPLICATION NUMBER: 858,594
;       FILING DATE: 30-APR-1986
;       APPLICATION NUMBER: 614,612
;       FILING DATE: 29-MAY-1984
;       APPLICATION NUMBER: 614,615
;       FILING DATE: 29-MAY-1984
;       APPLICATION NUMBER: 614,617
;       FILING DATE: 29-MAY-1984
;       APPLICATION NUMBER: 614,491
;       FILING DATE: 29-MAY-1984
;SEQ ID NO:19:
;       LENGTH: 6
5472855-19

  Query Match             75.0%;  Score 27;  DB 6;  Length 6;
  Best Local Similarity   60.0%;  Pred. No. 3e+05;
  Matches    3;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              :|:||
Db          2 EHFRW 6


RESULT 44
US-08-349-902B-9
; Sequence 9, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;     APPLICANT:  Victor J. Hruby et al
;     TITLE OF INVENTION:  Linear and Cyclic Analogs of
;     TITLE OF INVENTION:  alpha-MSH fragments
;     NUMBER OF SEQUENCES:  34
;     CORRESPONDENCE ADDRESS:
;       ADDRESSEE:  Yahwak & Associates
;       STREET:  25 Skytop Drive
;       CITY:  Trumbull
;       STATE:  Connecticut
;       COUNTRY:  USA
;       ZIP:  06611
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  floppy disk
;       COMPUTER:  Macintosh
;       OPERATING SYSTEM:  MS-DOS
;       SOFTWARE:  Microsoft Word 5.0
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/349,902B
;       FILING DATE:  6-DEC-1994
;       CLASSIFICATION:  530
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  George M. Yahwak
;       REGISTRATION NUMBER:  26,824
;       REFERENCE/DOCKET NUMBER:  UA 816 CIP
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (203)268-1951
;       TELEFAX:  (203)268-1951
;   INFORMATION FOR SEQ ID NO:  9:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  7 amino acids
;       TYPE:  amino acid
;       STRANDEDNESS:  single
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  peptide
;     FEATURE:
;       OTHER INFORMATION:  position 1 is
;       OTHER INFORMATION:  No. 5674839leucine; position 4 is D-phenylaline;
;       OTHER INFORMATION:  position 7 is Ornithine
US-08-349-902B-9

  Query Match             75.0%;  Score 27;  DB 1;  Length 7;
  Best Local Similarity   80.0%;  Pred. No. 3e+05;
  Matches    4;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
```

```
              :||||
Db          2 EHXRW 6


RESULT 45
US-08-349-902B-11
; Sequence 11, Application US/08349902B
; Patent No. 5674839
;  GENERAL INFORMATION:
;    APPLICANT:  Victor J. Hruby et al
;    TITLE OF INVENTION:  Linear and Cyclic Analogs of
;    TITLE OF INVENTION:  alpha-MSH fragments
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Yahwak & Associates
;      STREET:  25 Skytop Drive
;      CITY:  Trumbull
;      STATE:  Connecticut
;      COUNTRY:  USA
;      ZIP:  06611
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  floppy disk
;      COMPUTER:  Macintosh
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Microsoft Word 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/349,902B
;      FILING DATE:  6-DEC-1994
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  George M. Yahwak
;      REGISTRATION NUMBER:  26,824
;      REFERENCE/DOCKET NUMBER:  UA 816 CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203)268-1951
;      TELEFAX:  (203)268-1951
;  INFORMATION FOR SEQ ID NO:  11:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      OTHER INFORMATION:  position 1 is
;      OTHER INFORMATION:  No. 5674839leucine; position 4 is D-phenylaline;
;      OTHER INFORMATION:  position 7 is 2,4-diaminobutyric acid
US-08-349-902B-11

  Query Match             75.0%;  Score 27;  DB 1;  Length 7;
  Best Local Similarity   80.0%;  Pred. No. 3e+05;
  Matches    4;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
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Db          2 EHXRW 6


Search completed: May 18, 2004, 15:57:52
Job time : 23 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: May 18, 2004, 15:56:57 ; Search time 41 Seconds
(without alignments)
40.721 Million cell updates/sec

Title: CLAIM11
Perfect score: 36
Sequence: 1 DHXRWK 6

Scoring table: BLOSUM62DX
Gapop 10.0 , Gapext 0.5

Searched: 1145568 seqs, 278261457 residues

Total number of hits satisfying chosen parameters: 146124

Minimum DB seq length: 0
Maximum DB seq length: 10

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published_Applications_AA:*
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17: /cgn2_6/ptodata/1/pubpaa/US60_NEW_PUB.pep:*
18: /cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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1	36	100.0	7	9	US-09-953-349-5	Sequence 5, Appli
2	36	100.0	7	9	US-09-953-349-6	Sequence 6, Appli
3	36	100.0	7	10	US-09-458-579-5	Sequence 5, Appli
4	36	100.0	7	10	US-09-458-579-6	Sequence 6, Appli
5	36	100.0	7	14	US-10-074-754-5	Sequence 5, Appli
6	31	86.1	10	10	US-09-809-638-66	Sequence 66, Appl
7	27	75.0	5	9	US-09-953-349-1	Sequence 1, Appli
8	27	75.0	5	10	US-09-458-579-1	Sequence 1, Appli
9	27	75.0	5	13	US-10-074-956-6	Sequence 6, Appli
10	27	75.0	7	12	US-09-774-282-2	Sequence 2, Appli
11	27	75.0	7	14	US-10-235-682-2	Sequence 2, Appli
12	27	75.0	7	14	US-10-426-647-2	Sequence 2, Appli
13	27	75.0	7	15	US-10-420-578-2	Sequence 2, Appli
14	27	75.0	7	15	US-10-298-142A-2	Sequence 2, Appli
15	27	75.0	8	14	US-10-080-263C-30	Sequence 30, Appl
16	27	75.0	10	9	US-09-828-272A-2	Sequence 2, Appli
17	27	75.0	10	14	US-10-023-287-2	Sequence 2, Appli
18	26	72.2	5	12	US-10-436-549-389	Sequence 389, App
19	26	72.2	9	10	US-09-791-393-184	Sequence 184, App
20	26	72.2	9	10	US-09-791-389-184	Sequence 184, App
21	26	72.2	9	10	US-09-932-165-54	Sequence 54, Appl
22	26	72.2	10	10	US-09-932-165-157	Sequence 157, App
23	25	69.4	4	9	US-09-929-818-206	Sequence 206, App
24	25	69.4	4	12	US-10-640-755-1	Sequence 1, Appli
25	25	69.4	4	12	US-09-883-069-4	Sequence 4, Appli
26	25	69.4	4	12	US-10-139-624-1	Sequence 1, Appli
27	25	69.4	4	13	US-10-040-547-1	Sequence 1, Appli
28	25	69.4	4	16	US-10-463-016-1	Sequence 1, Appli
29	25	69.4	6	9	US-09-990-762-12	Sequence 12, Appl
30	25	69.4	6	10	US-09-858-852A-12	Sequence 12, Appl
31	25	69.4	6	15	US-10-297-976-1	Sequence 1, Appli
32	25	69.4	7	9	US-09-953-349-3	Sequence 3, Appli
33	25	69.4	7	10	US-09-575-847-16	Sequence 16, Appl
34	25	69.4	7	10	US-09-458-579-3	Sequence 3, Appli
35	25	69.4	7	12	US-10-258-146A-45	Sequence 45, Appl
36	25	69.4	7	12	US-10-328-953-190	Sequence 190, App
37	25	69.4	7	14	US-10-052-578-187	Sequence 187, App
38	25	69.4	7	14	US-10-080-263C-32	Sequence 32, Appl
39	25	69.4	7	14	US-10-053-520-187	Sequence 187, App
40	25	69.4	7	14	US-10-053-498B-187	Sequence 187, App
41	25	69.4	7	15	US-10-620-099-16	Sequence 16, Appl
42	25	69.4	8	9	US-09-828-272A-3	Sequence 3, Appli
43	25	69.4	8	12	US-09-774-282-3	Sequence 3, Appli
44	25	69.4	8	14	US-10-235-682-3	Sequence 3, Appli
45	25	69.4	8	14	US-10-015-055-2	Sequence 2, Appli

ALIGNMENTS

RESULT 1
US-09-953-349-5
; Sequence 5, Application US/09953349
; Patent No. US20020099014A1
; GENERAL INFORMATION:
; APPLICANT: Brennan, Miles
; APPLICANT: Hochgeschwender, Ute
; TITLE OF INVENTION: Method for Treatment of Insulin Resistance in Obesity and Diabetes
; FILE REFERENCE: 3718-7
; CURRENT APPLICATION NUMBER: US/09/953,349
; CURRENT FILING DATE: 2001-09-13
; PRIOR APPLICATION NUMBER: 60/232,292
; PRIOR FILING DATE: 2000-09-13
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 5
; LENGTH: 7
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; NAME/KEY: MOD_RES
; LOCATION: (1)..(1)
; OTHER INFORMATION: Nle
; NAME/KEY: MOD_RES
; LOCATION: (4)..(4)
; OTHER INFORMATION: Xaa = D-naphthylalanine
; NAME/KEY: PEPTIDE
; LOCATION: (1)..(7)
; OTHER INFORMATION: analog
US-09-953-349-5

Query Match 100.0%; Score 36; DB 9; Length 7;
Best Local Similarity 100.0%; Pred. No. 1e+06;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DHXRWK 6
||||||
Db 2 DHXRWK 7

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RESULT 2
US-09-953-349-6
; Sequence 6, Application US/09953349
; Patent No. US20020099014A1
; GENERAL INFORMATION:
;  APPLICANT: Brennan, Miles
;  APPLICANT:  Hochgeschwender, Ute
;  TITLE OF INVENTION: Method for Treatment of Insulin Resistance in Obesity and Diabete
;  FILE REFERENCE: 3718-7
;  CURRENT APPLICATION NUMBER: US/09/953,349
;  CURRENT FILING DATE:  2001-09-13
;  PRIOR APPLICATION NUMBER: 60/232,292
;  PRIOR FILING DATE: 2000-09-13
;  NUMBER OF SEQ ID NOS: 8
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 6
;   LENGTH: 7
;   TYPE: PRT
;   ORGANISM: Artificial sequence
;   FEATURE:
;   NAME/KEY: MOD_RES
;   LOCATION: (1)..(1)
;   OTHER INFORMATION: Xaa = Nle
;   NAME/KEY: MOD_RES
;   LOCATION: (4)..(4)
;   OTHER INFORMATION: Phe = D-para-iodo-phenylalanine
;   NAME/KEY: PEPTIDE
;   LOCATION: (1)..(7)
;   OTHER INFORMATION: analog
US-09-953-349-6

  Query Match             100.0%;  Score 36;  DB 9;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 3
US-09-458-579-5
; Sequence 5, Application US/09458579
; Publication No. US20030144174A1
; GENERAL INFORMATION:
;  APPLICANT: Brennan, Miles B.
;  APPLICANT: Hochgeschwender, Ute
;  TITLE OF INVENTION: METHODS FOR IDENTIFYING COMPOUNDS USEFUL FOR THE
;  TITLE OF INVENTION: REGULATION OF BODY WEIGHT AND ASSOCIATED CONDITIONS
;  FILE REFERENCE: 3718-6
;  CURRENT APPLICATION NUMBER: US/09/458,579
;  CURRENT FILING DATE: 1999-12-09
;  EARLIER APPLICATION NUMBER: 60/111,581
;  EARLIER FILING DATE: 1998-12-09
;  EARLIER APPLICATION NUMBER: 60/146,306
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,305
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,304
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,303
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,302
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,301
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,300
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,299
;  EARLIER FILING DATE: 1999-07-29
;  NUMBER OF SEQ ID NOS: 6
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 5
;   LENGTH: 7
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   NAME/KEY: MOD_RES
;   LOCATION: (1)
;   OTHER INFORMATION: Nle
;   FEATURE:
;   NAME/KEY: MOD_RES
;   LOCATION: (4)
;   OTHER INFORMATION: Xaa = D-naphthylalanine
;   FEATURE:
;   NAME/KEY: PEPTIDE
;   LOCATION: (1)..(7)
;   OTHER INFORMATION: analog
US-09-458-579-5

  Query Match             100.0%;  Score 36;  DB 10;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 1e+06;
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Qy          1 DHXRWK 6
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Db          2 DHXRWK 7


RESULT 4
US-09-458-579-6
; Sequence 6, Application US/09458579
; Publication No. US20030144174A1
; GENERAL INFORMATION:
;  APPLICANT: Brennan, Miles B.
;  APPLICANT: Hochgeschwender, Ute
;  TITLE OF INVENTION: METHODS FOR IDENTIFYING COMPOUNDS USEFUL FOR THE
;  TITLE OF INVENTION: REGULATION OF BODY WEIGHT AND ASSOCIATED CONDITIONS
;  FILE REFERENCE: 3718-6
;  CURRENT APPLICATION NUMBER: US/09/458,579
;  CURRENT FILING DATE: 1999-12-09
;  EARLIER APPLICATION NUMBER: 60/111,581
;  EARLIER FILING DATE: 1998-12-09
;  EARLIER APPLICATION NUMBER: 60/146,306
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,305
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,304
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,303
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,302
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,301
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,300
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,299
;  EARLIER FILING DATE: 1999-07-29
;  NUMBER OF SEQ ID NOS: 6
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 6
;   LENGTH: 7
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
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;   NAME/KEY: MOD_RES
;   LOCATION: (1)
;   OTHER INFORMATION: Xaa = Nle
;   FEATURE:
;   NAME/KEY: MOD_RES
;   LOCATION: (4)
;   OTHER INFORMATION: Phe = D-para-iodo-phenylalanine
;   FEATURE:
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;   NAME/KEY: PEPTIDE
;   LOCATION: (1)..(7)
;   OTHER INFORMATION: analog
US-09-458-579-6

  Query Match             100.0%;  Score 36;  DB 10;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 5
US-10-074-754-5
; Sequence 5, Application US/10074754
; Publication No. US20030113263A1
; GENERAL INFORMATION:
;  APPLICANT: Marks, Daniel L.
;  APPLICANT:  Cone, Roger D.
;  TITLE OF INVENTION: Methods and Reagents for Discovering and Using
;  TITLE OF INVENTION:  Mammalian Melanocortin Receptor Antagonists to Treat
;  TITLE OF INVENTION:  Cachexia
;  FILE REFERENCE: 96-886
;  CURRENT APPLICATION NUMBER: US/10/074,754
;  CURRENT FILING DATE:  2002-02-13
;  NUMBER OF SEQ ID NOS: 10
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 5
;   LENGTH: 7
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   NAME/KEY: SITE
;   LOCATION: (1)
;   OTHER INFORMATION: "Xaa" is norleucine
;   FEATURE:
;   NAME/KEY: SITE
;   LOCATION: (4)
;   OTHER INFORMATION: "Xaa" is naphthyl-D-alanine
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: peptide
;   OTHER INFORMATION: cyclized between the epsilon amino group of the
;   OTHER INFORMATION: lysine and the sidechain carboxyl group of the
;   OTHER INFORMATION: aspartic acid
US-10-074-754-5

  Query Match             100.0%;  Score 36;  DB 14;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 1e+06;
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Qy          1 DHXRWK 6
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Db          2 DHXRWK 7


RESULT 6
US-09-809-638-66
; Sequence 66, Application US/09809638
; Publication No. US20030059895A1
; GENERAL INFORMATION:
;  APPLICANT: Mary Faris
;  APPLICANT:  Pia M. Challita-Eid
;  APPLICANT:  Steve Chappell Mitchell
;  APPLICANT:  Daniel E.H. Afar
;  APPLICANT:  Arthur B. Raitano
;  APPLICANT:  Aya Jakobovits
;  TITLE OF INVENTION: 125P5C8:  A TISSUE SPECIFIC PROTEIN
;  TITLE OF INVENTION:  HIGHLY EXPRESSED IN VARIOUS CANCERS
;  FILE REFERENCE: 129.35US01
;  CURRENT APPLICATION NUMBER: US/09/809,638
;  CURRENT FILING DATE:  2001-03-14
;  NUMBER OF SEQ ID NOS: 746
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 66
;   LENGTH: 10
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-809-638-66

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Qy          1 DHXRW 5
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Db          3 DHDRW 7


RESULT 7
US-09-953-349-1
; Sequence 1, Application US/09953349
; Patent No. US20020099014A1
; GENERAL INFORMATION:
;  APPLICANT: Brennan, Miles
;  APPLICANT:  Hochgeschwender, Ute
;  TITLE OF INVENTION: Method for Treatment of Insulin Resistance in Obesity and Diabetes
;  FILE REFERENCE: 3718-7
;  CURRENT APPLICATION NUMBER: US/09/953,349
;  CURRENT FILING DATE:  2001-09-13
;  PRIOR APPLICATION NUMBER: 60/232,292
;  PRIOR FILING DATE: 2000-09-13
;  NUMBER OF SEQ ID NOS: 8
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 1
;   LENGTH: 5
;   TYPE: PRT
;   ORGANISM: Artificial sequence
;   FEATURE:
;   NAME/KEY: DOMAIN
;   LOCATION: (1)..(5)
;   OTHER INFORMATION: conserved region
US-09-953-349-1

  Query Match             75.0%;  Score 27;  DB 9;  Length 5;
  Best Local Similarity   60.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              :|:||
Db          1 EHFRW 5


RESULT 8
US-09-458-579-1
; Sequence 1, Application US/09458579
; Publication No. US20030144174A1
; GENERAL INFORMATION:
;  APPLICANT: Brennan, Miles B.
;  APPLICANT: Hochgeschwender, Ute
;  TITLE OF INVENTION: METHODS FOR IDENTIFYING COMPOUNDS USEFUL FOR THE
;  TITLE OF INVENTION: REGULATION OF BODY WEIGHT AND ASSOCIATED CONDITIONS
;  FILE REFERENCE: 3718-6
;  CURRENT APPLICATION NUMBER: US/09/458,579
;  CURRENT FILING DATE: 1999-12-09
;  EARLIER APPLICATION NUMBER: 60/111,581
;  EARLIER FILING DATE: 1998-12-09
;  EARLIER APPLICATION NUMBER: 60/146,306
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,305
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,304
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,303
;  EARLIER FILING DATE: 1999-07-29
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;  EARLIER APPLICATION NUMBER: 60/146,302
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,301
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,300
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,299
;  EARLIER FILING DATE: 1999-07-29
;  NUMBER OF SEQ ID NOS: 6
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1
;   LENGTH: 5
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   NAME/KEY: DOMAIN
;   LOCATION: (1)..(5)
;   OTHER INFORMATION: conserved region
US-09-458-579-1

  Query Match             75.0%;  Score 27;  DB 10;  Length 5;
  Best Local Similarity   60.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              :|:||
Db          1 EHFRW 5


RESULT 9
US-10-074-956-6
; Sequence 6, Application US/10074956
; Publication No. US20020193332A1
; GENERAL INFORMATION:
;  APPLICANT: Hedley, Mary Lynne
;  TITLE OF INVENTION: METHODS OF TREATING BLADDER DISORDERS
;  FILE REFERENCE: 08191-022001
;  CURRENT APPLICATION NUMBER: US/10/074,956
;  CURRENT FILING DATE:  2002-06-10
;  PRIOR APPLICATION NUMBER: 60/268,175
;  PRIOR FILING DATE: 2001-02-12
;  NUMBER OF SEQ ID NOS: 29
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 6
;   LENGTH: 5
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-074-956-6

  Query Match             75.0%;  Score 27;  DB 13;  Length 5;
  Best Local Similarity   60.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              :|:||
Db          1 EHFRW 5


RESULT 10
US-09-774-282-2
; Sequence 2, Application US/09774282
; Publication No. US20020146374A1
; GENERAL INFORMATION:
;  APPLICANT: LIPTON, JAMES M.
;  TITLE OF INVENTION: A COMPOUND AND METHOD OF TREATMENT FOR FUNGAL PATHOLOGIES
;  TITLE OF INVENTION:  OF THE ORAL CAVITY
;  FILE REFERENCE: 54275.8010.US00
;  CURRENT APPLICATION NUMBER: US/09/774,282
;  CURRENT FILING DATE:  2001-01-29
;  NUMBER OF SEQ ID NOS: 10
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 2
;   LENGTH: 7
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: Synthetic
;   OTHER INFORMATION: peptide
;   FEATURE:
;   OTHER INFORMATION: n-term may or may not be acetylated
;   FEATURE:
;   OTHER INFORMATION: c-term may or may not be amidated
US-09-774-282-2

  Query Match             75.0%;  Score 27;  DB 12;  Length 7;
  Best Local Similarity   60.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              :|:||
Db          2 EHFRW 6


RESULT 11
US-10-235-682-2
; Sequence 2, Application US/10235682
; Publication No. US20030108523A1
; GENERAL INFORMATION:
;  APPLICANT: Lipton, James
;  APPLICANT:  Catania, Anna P.
;  TITLE OF INVENTION: A CANCER TREATMENT SYSTEM
;  FILE REFERENCE: 8022.US01
;  CURRENT APPLICATION NUMBER: US/10/235,682
;  CURRENT FILING DATE:  2002-09-05
;  PRIOR APPLICATION NUMBER: US 60/317,514
;  PRIOR FILING DATE: 2002-09-05
;  NUMBER OF SEQ ID NOS: 9
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
;   LENGTH: 7
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Designed polypeptide with anti-inflammatory, anti-microbial, ant
;   OTHER INFORMATION: i-fungal, and anti-viral properties.
US-10-235-682-2

  Query Match             75.0%;  Score 27;  DB 14;  Length 7;
  Best Local Similarity   60.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              :|:||
Db          2 EHFRW 6


RESULT 12
US-10-426-647-2
; Sequence 2, Application US/10426647
; Publication No. US20030176353A1
; GENERAL INFORMATION:
;  APPLICANT: Lipton, J.M., Catania A. P.
;  TITLE OF INVENTION: A URO-GENITAL CONDITION TREATMENT SYSTEM
;  FILE REFERENCE: 252/100
;  CURRENT APPLICATION NUMBER: US/10/426,647
;  CURRENT FILING DATE:  2003-04-29
;  PRIOR APPLICATION NUMBER: US/09/535,066B
;  PRIOR FILING DATE: 2000-03-23
;  PRIOR APPLICATION NUMBER: US 60/126,233
;  PRIOR FILING DATE: 1999-03-24
;  NUMBER OF SEQ ID NOS: 8
;  SOFTWARE: Microsoft Word
; SEQ ID NO 2
;   LENGTH: 7
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
```

```
;   FEATURE:
;   OTHER INFORMATION: Designed polypeptide with anti-inflammatory, anti-microbial,
;   OTHER INFORMATION: anti-fungal, and anti-viral properties.
US-10-426-647-2

  Query Match             75.0%;  Score 27;  DB 14;  Length 7;
  Best Local Similarity   60.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              :|:||
Db          2 EHFRW 6


RESULT 13
US-10-420-578-2
; Sequence 2, Application US/10420578
; Publication No. US20040006024A1
; GENERAL INFORMATION:
;  APPLICANT: Lipton, J.M., Catania A. P.
;  TITLE OF INVENTION: A URO-GENITAL CONDITION TREATMENT SYSTEM
;  FILE REFERENCE: 252/100
;  CURRENT APPLICATION NUMBER: US/10/420,578
;  CURRENT FILING DATE:  2003-04-21
;  PRIOR APPLICATION NUMBER: US/09/535,066B
;  PRIOR FILING DATE: 2000-03-23
;  PRIOR APPLICATION NUMBER: US 60/126,233
;  PRIOR FILING DATE: 1999-03-24
;  NUMBER OF SEQ ID NOS: 8
;  SOFTWARE: Microsoft Word
; SEQ ID NO 2
;   LENGTH: 7
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Designed polypeptide with anti-inflammatory, anti-microbial,
;   OTHER INFORMATION: anti-fungal, and anti-viral properties.
US-10-420-578-2

  Query Match             75.0%;  Score 27;  DB 15;  Length 7;
  Best Local Similarity   60.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              :|:||
Db          2 EHFRW 6


RESULT 14
US-10-298-142A-2
; Sequence 2, Application US/10298142A
; Publication No. US20040009181A1
; GENERAL INFORMATION:
;  APPLICANT: Zengen, Inc.
;  APPLICANT:  Lipton, James M.
;  TITLE OF INVENTION: Treatment of Ophthalmic Conditions
;  FILE REFERENCE: 54275.8019.US00
;  CURRENT APPLICATION NUMBER: US/10/298,142A
;  CURRENT FILING DATE:  2002-11-15
;  PRIOR APPLICATION NUMBER: US 60/382,887
;  PRIOR FILING DATE: 2002-05-21
;  NUMBER OF SEQ ID NOS: 10
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
;   LENGTH: 7
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Designed polypeptide with anti-inflammatory, anti-bacterial,
;   OTHER INFORMATION: anti-fungal and antipyretic properties.
US-10-298-142A-2

  Query Match             75.0%;  Score 27;  DB 15;  Length 7;
  Best Local Similarity   60.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              :|:||
Db          2 EHFRW 6


RESULT 15
US-10-080-263C-30
; Sequence 30, Application US/10080263C
; Publication No. US20030143670A1
; GENERAL INFORMATION:
;  APPLICANT: Bonini, James A.
;  APPLICANT:  Huang, Ling-Yan
;  APPLICANT:  Wilson, Amy
;  TITLE OF INVENTION: DNA ENCODING SNORF44 RECEPTOR
;  FILE REFERENCE: 1795/59370-A/JPW/ADM/ANX
;  CURRENT APPLICATION NUMBER: US/10/080,263C
;  CURRENT FILING DATE:  2002-02-20
;  NUMBER OF SEQ ID NOS: 33
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 30
;   LENGTH: 8
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-080-263C-30

  Query Match             75.0%;  Score 27;  DB 14;  Length 8;
  Best Local Similarity   60.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              :|:||
Db          4 EHFRW 8


RESULT 16
US-09-828-272A-2
; Sequence 2, Application US/09828272A
; Publication No. US20020183255A1
; GENERAL INFORMATION:
;  APPLICANT: LIPTON, James M
;  APPLICANT:  CATANIA, Anna P
;  TITLE OF INVENTION: USE OF KPV TRIPEPTIDE FOR DERMATOLOGICAL DISORDERS
;  FILE REFERENCE: 259/058
;  CURRENT APPLICATION NUMBER: US/09/828,272A
;  CURRENT FILING DATE:  2001-04-06
;  NUMBER OF SEQ ID NOS: 7
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
;   LENGTH: 10
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Designed polypeptide with anti-inflammatory, anti-bacterial, anti
;   OTHER INFORMATION: -fungal and antipyretic properties.
US-09-828-272A-2

  Query Match             75.0%;  Score 27;  DB 9;  Length 10;
  Best Local Similarity   60.0%;  Pred. No. 4.7e+02;
  Matches    3;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              :|:||
Db          2 EHFRW 6


RESULT 17
US-10-023-287-2
; Sequence 2, Application US/10023287
; Publication No. US20030129156A1
; GENERAL INFORMATION:
```

```
;  APPLICANT: LIPTON, James M
;  APPLICANT:  CATANIA, Anna P
;  TITLE OF INVENTION: USE OF A POLYPEPTIDE FOR TREATMENT OF PRURITIS IN ANIMALS
;  FILE REFERENCE: 259/060
;  CURRENT APPLICATION NUMBER: US/10/023,287
;  CURRENT FILING DATE:  2002-10-01
;  NUMBER OF SEQ ID NOS: 4
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
;   LENGTH: 10
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Designed polypeptide with anti-inflammatory, anti-bacterial, anti
;   OTHER INFORMATION: -fungal and antipyretic properties.
US-10-023-287-2

  Query Match             75.0%;  Score 27;  DB 14;  Length 10;
  Best Local Similarity   60.0%;  Pred. No. 4.7e+02;
  Matches    3;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              :|:||
Db          2 EHFRW 6


RESULT 18
US-10-436-549-389
; Sequence 389, Application US/10436549
; Publication No. US20040038307A1
; GENERAL INFORMATION:
;  APPLICANT: Lee, Frank D.
;  APPLICANT:  Meng, Dr. Xun
;  APPLICANT:  Chan, John W.
;  APPLICANT:  Zhang, Shengsheng
;  APPLICANT:  Benkovic, Stephen J.
;  TITLE OF INVENTION: UNIQUE RECOGNITION SEQUENCES AND METHODS OF USE THEREOF IN
;  TITLE OF INVENTION:  PROTEIN ANALYSIS
;  FILE REFERENCE: ENGE-P01-001
;  CURRENT APPLICATION NUMBER: US/10/436,549
;  CURRENT FILING DATE:  2003-05-12
;  PRIOR APPLICATION NUMBER: 60/379,626
;  PRIOR FILING DATE: 2002-05-10
;  PRIOR APPLICATION NUMBER: 60/393,233
;  PRIOR FILING DATE: 2002-07-01
;  PRIOR APPLICATION NUMBER: 60/393,235
;  PRIOR FILING DATE: 2002-07-01
;  PRIOR APPLICATION NUMBER: 60/393,211
;  PRIOR FILING DATE: 2002-07-01
;  PRIOR APPLICATION NUMBER: 60/393,280
;  PRIOR FILING DATE: 2002-07-01
;  PRIOR APPLICATION NUMBER: 60/393,197
;  PRIOR FILING DATE: 2002-07-01
;  PRIOR APPLICATION NUMBER: 60/393,223
;  PRIOR FILING DATE: 2002-07-01
;  PRIOR APPLICATION NUMBER: 60/430,948
;  PRIOR FILING DATE: 2002-12-04
;  PRIOR APPLICATION NUMBER: 60/433,319
;  PRIOR FILING DATE: 2002-12-13
;  PRIOR APPLICATION NUMBER: 60/393,137
;  PRIOR FILING DATE: 2002-07-01
;  NUMBER OF SEQ ID NOS: 614
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 389
;   LENGTH: 5
;   TYPE: PRT
;   ORGANISM: Human
US-10-436-549-389

  Query Match             72.2%;  Score 26;  DB 12;  Length 5;
  Best Local Similarity   60.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 HXRWK 6
              |::||
Db          1 HKQWK 5


RESULT 19
US-09-791-393-184
; Sequence 184, Application US/09791393
; Publication No. US20030032200A1
; GENERAL INFORMATION:
;  APPLICANT: Herath, Herath Mudiyanselage Athula Chandrasiri
;  APPLICANT: Parekh, Rajesh Bhikhu
;  APPLICANT: Rohlff, Christian
;  TITLE OF INVENTION: Proteins, Genes and Their Use for
;  TITLE OF INVENTION: Diagnosis and Treatment of Bipolar Affective Disorder (BAD)
;  TITLE OF INVENTION: and Unipolar Depression
;  FILE REFERENCE: 2543-1-001 N1
;  CURRENT APPLICATION NUMBER: US/09/791,393
;  CURRENT FILING DATE: 2002-01-02
;  EARLIER APPLICATION NUMBER: GB 0004412.3
;  EARLIER FILING DATE: 2000-02-24
;  EARLIER APPLICATION NUMBER: GB 0030050.9
;  EARLIER FILING DATE: 2000-12-08
;  EARLIER APPLICATION NUMBER: US 60/254,830
;  EARLIER FILING DATE: 2000-12-12
;  NUMBER OF SEQ ID NOS: 308
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 184
;   LENGTH: 9
;   TYPE: PRT
;   ORGANISM: homo sapien
US-09-791-393-184

  Query Match             72.2%;  Score 26;  DB 10;  Length 9;
  Best Local Similarity   60.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 HXRWK 6
              |::||
Db          5 HGQWK 9


RESULT 20
US-09-791-389-184
; Sequence 184, Application US/09791389
; Publication No. US20030032773A1
; GENERAL INFORMATION:
;  APPLICANT: Herath, Herath Mudiyanselage Athula Chandrasiri
;  APPLICANT:  Parekh, Rajesh Bhikhu
;  APPLICANT:  Rohlff, Christian
;  APPLICANT:  Terrett, Jonathan Alexander
;  APPLICANT:  Tyson, Kerry Louise
;  TITLE OF INVENTION: Proteins, Genes and Their Use for
;  TITLE OF INVENTION:  Diagnosis and Treatment of Bipolar Affective Disorder (BAD)
;  TITLE OF INVENTION:  and Unipolar Depression
;  FILE REFERENCE: 2543-1-001 N2
;  CURRENT APPLICATION NUMBER: US/09/791,389
;  CURRENT FILING DATE:  2001-02-23
;  PRIOR APPLICATION NUMBER: GB 0004412.3
;  PRIOR FILING DATE: 2000-02-24
;  PRIOR APPLICATION NUMBER: GB 0030050.9
;  PRIOR FILING DATE: 2000-12-08
;  PRIOR APPLICATION NUMBER: US 60/254,830
;  PRIOR FILING DATE: 2000-12-12
;  NUMBER OF SEQ ID NOS: 308
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 184
;   LENGTH: 9
;   TYPE: PRT
;   ORGANISM: homo sapien
US-09-791-389-184

  Query Match             72.2%;  Score 26;  DB 10;  Length 9;
```

Best Local Similarity 60.0%; Pred. No. 1e+06;
Matches 3; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

```
Qy          2 HXRWK 6
              |::||
Db          5 HGQWK 9
```

RESULT 21
US-09-932-165-54
; Sequence 54, Application US/09932165
; Publication No. US20030134784A1
; GENERAL INFORMATION:
; APPLICANT: RAITANO, ARTHUR
; APPLICANT: CHALLITA-EID, PIA M.
; APPLICANT: FARIS, MARY
; APPLICANT: SAFFRAN, DOUGLAS
; APPLICANT: AFAR, DANIEL
; APPLICANT: LEVIN, ELANA
; APPLICANT: HUBERT, RENE
; APPLICANT: GE, WANGMAO
; APPLICANT: JAKOBOVITS, AYA
; TITLE OF INVENTION: NUCLEIC ACIDS AND CORRESPONDING PROTEINS ENTITLED
; TITLE OF INVENTION: 83P2H3 AND CaTrF2E11 USEFUL IN TREATMENT AND
; TITLE OF INVENTION: DETECTION OF CANCER
; FILE REFERENCE: 51158-20014.00
; CURRENT APPLICATION NUMBER: US/09/932,165
; CURRENT FILING DATE: 2001-08-17
; PRIOR APPLICATION NUMBER: 60/226,329
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 1508
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 54
; LENGTH: 9
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Peptide motif
US-09-932-165-54

Query Match 72.2%; Score 26; DB 10; Length 9;
Best Local Similarity 50.0%; Pred. No. 1e+06;
Matches 3; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 DHXRWK 6
              |::||:
Db          3 DNKRWR 8
```

RESULT 22
US-09-932-165-157
; Sequence 157, Application US/09932165
; Publication No. US20030134784A1
; GENERAL INFORMATION:
; APPLICANT: RAITANO, ARTHUR
; APPLICANT: CHALLITA-EID, PIA M.
; APPLICANT: FARIS, MARY
; APPLICANT: SAFFRAN, DOUGLAS
; APPLICANT: AFAR, DANIEL
; APPLICANT: LEVIN, ELANA
; APPLICANT: HUBERT, RENE
; APPLICANT: GE, WANGMAO
; APPLICANT: JAKOBOVITS, AYA
; TITLE OF INVENTION: NUCLEIC ACIDS AND CORRESPONDING PROTEINS ENTITLED
; TITLE OF INVENTION: 83P2H3 AND CaTrF2E11 USEFUL IN TREATMENT AND
; TITLE OF INVENTION: DETECTION OF CANCER
; FILE REFERENCE: 51158-20014.00
; CURRENT APPLICATION NUMBER: US/09/932,165
; CURRENT FILING DATE: 2001-08-17
; PRIOR APPLICATION NUMBER: 60/226,329
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 1508
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 157
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Peptide motif
US-09-932-165-157

Query Match 72.2%; Score 26; DB 10; Length 10;
Best Local Similarity 50.0%; Pred. No. 6.9e+02;
Matches 3; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 DHXRWK 6
              |::||:
Db          3 DNKRWR 8
```

RESULT 23
US-09-929-818-206
; Sequence 206, Application US/09929818
; Patent No. US20020099003A1
; GENERAL INFORMATION:
; APPLICANT: WILSON, LELAND F.
; APPLICANT: PLACE, VIRGIL A.
; TITLE OF INVENTION: TREATMENT OF FEMALE SEXUAL DYSFUNCTION WITH VASOACTIVE
; TITLE OF INVENTION: AGENTS, PARTICULARLY VASOACTIVE INTESTINAL POLYPEPTIDE
; TITLE OF INVENTION: AND AGONISTS THEREOF
; FILE REFERENCE: 9050-0013.24
; CURRENT APPLICATION NUMBER: US/09/929,818
; CURRENT FILING DATE: 2001-08-13
; PRIOR APPLICATION NUMBER: 09/498,522
; PRIOR FILING DATE: 2000-02-04
; PRIOR APPLICATION NUMBER: 09/181,316
; PRIOR FILING DATE: 1998-10-27
; PRIOR APPLICATION NUMBER: 08/959,064
; PRIOR FILING DATE: 1997-10-28
; PRIOR APPLICATION NUMBER: 08/959,057
; PRIOR FILING DATE: 1997-10-28
; NUMBER OF SEQ ID NOS: 207
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 206
; LENGTH: 4
; TYPE: PRT
; ORGANISM: Unknown Organism
; FEATURE:
; OTHER INFORMATION: Description of Unknown Organism: Melanocortin
; OTHER INFORMATION: peptide
US-09-929-818-206

Query Match 69.4%; Score 25; DB 9; Length 4;
Best Local Similarity 75.0%; Pred. No. 1e+06;
Matches 3; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy          2 HXRW 5
              |:||
Db          1 HFRW 4
```

RESULT 24
US-10-640-755-1
; Sequence 1, Application US/10640755
; Publication No. US20040038897A1
; GENERAL INFORMATION:
; APPLICANT: Palatin Technologies, Inc.
; APPLICANT: Sharma, Shubh
; APPLICANT: Shi, Yi-Qun
; APPLICANT: Cai, Hui-Zhi
; APPLICANT: Yang, Wei
; APPLICANT: Shadiack, Annette
; TITLE OF INVENTION: Melanocortin Metallopeptides for Treatment of Sexual Dysfunction
; FILE REFERENCE: 70025-US-04431
; CURRENT APPLICATION NUMBER: US/10/640,755
; CURRENT FILING DATE: 2003-08-13

```
;  PRIOR APPLICATION NUMBER: PCT/US02/04431
;  PRIOR FILING DATE: 2002-02-13
;  PRIOR APPLICATION NUMBER: US 60/268,591
;  PRIOR FILING DATE: 2001-02-13
;  NUMBER OF SEQ ID NOS: 4
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 1
;   LENGTH: 4
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: Core sequence of alpha-MSH
US-10-640-755-1

  Query Match             69.4%;  Score 25;  DB 12;  Length 4;
  Best Local Similarity   75.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 HXRW 5
              |:||
Db          1 HFRW 4


RESULT 25
US-09-883-069-4
; Sequence 4, Application US/09883069
; Publication No. US20020012948A1
; GENERAL INFORMATION:
;  APPLICANT: Palatin Technologies, Inc.
;  APPLICANT:  Shubh, Sharma
;  APPLICANT:  Yiqun, Shi
;  TITLE OF INVENTION: Metallopeptide Combinatorial Libraries and Applications
;  FILE REFERENCE: 70025
;  CURRENT APPLICATION NUMBER: US/09/883,069
;  CURRENT FILING DATE:  2001-06-14
;  PRIOR APPLICATION NUMBER: US 60/112,235
;  PRIOR FILING DATE: 1998-12-14
;  PRIOR APPLICATION NUMBER: PCT/US99/29743
;  PRIOR FILING DATE: 1999-12-14
;  NUMBER OF SEQ ID NOS: 13
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 4
;   LENGTH: 4
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: tetrapeptide message sequence of alpha-MSH
US-09-883-069-4

  Query Match             69.4%;  Score 25;  DB 12;  Length 4;
  Best Local Similarity   75.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 HXRW 5
              |:||
Db          1 HFRW 4


RESULT 26
US-10-139-624-1
; Sequence 1, Application US/10139624
; Publication No. US20030212002A1
; GENERAL INFORMATION:
;  APPLICANT: Haskell-Luevano, Carrie
;  APPLICANT:  Holder, Jerry
;  TITLE OF INVENTION: Peptides and Methods for the Control of Obesity
;  FILE REFERENCE: UF-T10700
;  CURRENT APPLICATION NUMBER: US/10/139,624
;  CURRENT FILING DATE:  2002-05-07
;  NUMBER OF SEQ ID NOS: 2
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 1
;   LENGTH: 4
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Peptide fragment
US-10-139-624-1

  Query Match             69.4%;  Score 25;  DB 12;  Length 4;
  Best Local Similarity   75.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 HXRW 5
              |:||
Db          1 HFRW 4


RESULT 27
US-10-040-547-1
; Sequence 1, Application US/10040547
; Publication No. US20020107182A1
; GENERAL INFORMATION:
;  APPLICANT: Palatin Technologies, Inc.
;  APPLICANT:  Blood, Christine
;  APPLICANT:  Shadiack, Annette
;  APPLICANT:  Bernstein, Joanna K.
;  APPLICANT:  Herbert, Guy W.
;  TITLE OF INVENTION: Compositions and Methods for Treatment of Sexual
;  TITLE OF INVENTION:  Dysfunction
;  FILE REFERENCE: 70025-04-CIP
;  CURRENT APPLICATION NUMBER: US/10/040,547
;  CURRENT FILING DATE:  2002-01-04
;  PRIOR APPLICATION NUMBER: 60/142,346
;  PRIOR FILING DATE: 1999-06-29
;  PRIOR APPLICATION NUMBER: 60/194,987
;  PRIOR FILING DATE: 2000-04-05
;  PRIOR APPLICATION NUMBER: PCT/US00/18217
;  PRIOR FILING DATE: 2000-06-29
;  PRIOR APPLICATION NUMBER: 09/606,501
;  PRIOR FILING DATE: 2000-06-28
;  NUMBER OF SEQ ID NOS: 1
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 1
;   LENGTH: 4
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial
;   OTHER INFORMATION: Sequence:alpha-melanocyte-stimulation hormone
;   OTHER INFORMATION: tetrapeptide core sequence
US-10-040-547-1

  Query Match             69.4%;  Score 25;  DB 13;  Length 4;
  Best Local Similarity   75.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 HXRW 5
              |:||
Db          1 HFRW 4


RESULT 28
US-10-463-016-1
; Sequence 1, Application US/10463016
; Publication No. US20040086946A1
; GENERAL INFORMATION:
;  APPLICANT: Andrew J. Murphy
;  APPLICANT:  Y. Gopi Shanker
;  APPLICANT:  George D. Yancopoulos
;  TITLE OF INVENTION: Methods of Isolation of Active Compounds
;  TITLE OF INVENTION:  and Activated Targets
;  FILE REFERENCE: REG 940A
;  CURRENT APPLICATION NUMBER: US/10/463,016
;  CURRENT FILING DATE:  2003-06-17
;  PRIOR APPLICATION NUMBER: 60/423,767
```

```
;  PRIOR FILING DATE: 2002-11-05
;  NUMBER OF SEQ ID NOS: 7
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 4
;   TYPE: PRT
;   ORGANISM: homo sapiens
US-10-463-016-1

  Query Match             69.4%;  Score 25;  DB 16;  Length 4;
  Best Local Similarity   75.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 HXRW 5
              |:||
Db          1 HFRW 4


RESULT 29
US-09-990-762-12
; Sequence 12, Application US/09990762
; Patent No. US20020119498A1
; GENERAL INFORMATION:
;  APPLICANT: JOUNG, J. KEITH
;  APPLICANT:  MILLER, JEFFREY
;  APPLICANT:  PABO, CARL O.
;  TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR INTERACTION TRAP ASSAYS
;  FILE REFERENCE: MTV-030.02 (20021-3002)
;  CURRENT APPLICATION NUMBER: US/09/990,762
;  CURRENT FILING DATE:  2001-11-14
;  PRIOR APPLICATION NUMBER: 09/858,852
;  PRIOR FILING DATE: 2001-05-16
;  PRIOR APPLICATION NUMBER: 60/204,509
;  PRIOR FILING DATE: 2000-05-16
;  NUMBER OF SEQ ID NOS: 97
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 12
;   LENGTH: 6
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: Zinc finger
;   OTHER INFORMATION: recognition sequence
US-09-990-762-12

  Query Match             69.4%;  Score 25;  DB 9;  Length 6;
  Best Local Similarity   50.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              :|: ||
Db          1 NHGSWK 6


RESULT 30
US-09-858-852A-12
; Sequence 12, Application US/09858852A
; Publication No. US20030044787A1
; GENERAL INFORMATION:
;  APPLICANT: JOUNG, J. KEITH
;  APPLICANT:  MILLER, JEFFREY
;  APPLICANT:  PABO, CARL O.
;  TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR INTERACTION TRAP ASSAYS
;  FILE REFERENCE: MTV-030.01 (20021-3001)
;  CURRENT APPLICATION NUMBER: US/09/858,852A
;  CURRENT FILING DATE:  2001-05-16
;  PRIOR APPLICATION NUMBER: 60/204,509
;  PRIOR FILING DATE: 2000-05-16
;  NUMBER OF SEQ ID NOS: 91
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 12
;   LENGTH: 6
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: Zinc finger
;   OTHER INFORMATION: recognition sequence
US-09-858-852A-12

  Query Match             69.4%;  Score 25;  DB 10;  Length 6;
  Best Local Similarity   50.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              :|: ||
Db          1 NHGSWK 6


RESULT 31
US-10-297-976-1
; Sequence 1, Application US/10297976
; Publication No. US20030219825A1
; GENERAL INFORMATION:
;  APPLICANT: GLAXO GROUP LIMITED
;  TITLE OF INVENTION: HIGH THROUGHPUT METHOD FOR SCREENING CANDIDATE COMPOUNDS
;  TITLE OF INVENTION:  FOR BIOLOGICAL ACTIVITY
;  FILE REFERENCE: Docket No. US20030219825A1 PU3763WO
;  CURRENT APPLICATION NUMBER: US/10/297,976
;  CURRENT FILING DATE:  2002-12-12
;  NUMBER OF SEQ ID NOS: 3
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 1
;   LENGTH: 6
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence:  MCR1 agonist
;   OTHER INFORMATION: peptide
US-10-297-976-1

  Query Match             69.4%;  Score 25;  DB 15;  Length 6;
  Best Local Similarity   75.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 HXRW 5
              |:||
Db          3 HFRW 6


RESULT 32
US-09-953-349-3
; Sequence 3, Application US/09953349
; Patent No. US20020099014A1
; GENERAL INFORMATION:
;  APPLICANT: Brennan, Miles
;  APPLICANT:  Hochgeschwender, Ute
;  TITLE OF INVENTION: Method for Treatment of Insulin Resistance in Obesity and Diabetes
;  FILE REFERENCE: 3718-7
;  CURRENT APPLICATION NUMBER: US/09/953,349
;  CURRENT FILING DATE:  2001-09-13
;  PRIOR APPLICATION NUMBER: 60/232,292
;  PRIOR FILING DATE: 2000-09-13
;  NUMBER OF SEQ ID NOS: 8
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 3
;   LENGTH: 7
;   TYPE: PRT
;   ORGANISM: Artificial sequence
;   FEATURE:
;   NAME/KEY: MOD_RES
;   LOCATION: (1)..(1)
;   OTHER INFORMATION: Xaa = Nle
;   NAME/KEY: VARIANT
;   LOCATION: (2)..(2)
;   OTHER INFORMATION: Xaa = Glu or Asp
;   NAME/KEY: VARIANT
```

```
;   LOCATION: (4)..(4)
;   OTHER INFORMATION: Xaa = Phe or D-Phe
;   NAME/KEY: VARIANT
;   LOCATION: (7)..(7)
;   OTHER INFORMATION: Xaa = dibasic amino acid; Lys; Orn; Dbu; or Dpr
;   NAME/KEY: PEPTIDE
;   LOCATION: (1)..(7)
;   OTHER INFORMATION: analog
US-09-953-349-3

  Query Match             69.4%;  Score 25;  DB 9;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 1e+06;
  Matches    4;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 HXRW 5
              ||||
Db          3 HXRW 6


RESULT 33
US-09-575-847-16
; Sequence 16, Application US/09575847
; Publication No. US20030013149A1
; GENERAL INFORMATION:
;  APPLICANT: THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
;  APPLICANT:  WACHTER, Rebekka
;  APPLICANT:  REMINGTON, James
;  TITLE OF INVENTION: LONG WAVELENGTH ENGINEERED FLUORESCENT PROTEINS
;  FILE REFERENCE: REGEN1250-5
;  CURRENT APPLICATION NUMBER: US/09/575,847
;  CURRENT FILING DATE:  2000-05-19
;  PRIOR APPLICATION NUMBER: US 08/974,737
;  PRIOR FILING DATE: 1997-11-19
;  PRIOR APPLICATION NUMBER: US 08/911,825
;  PRIOR FILING DATE: 1997-08-15
;  PRIOR APPLICATION NUMBER: US 08/706,408
;  PRIOR FILING DATE: 1996-08-30
;  NUMBER OF SEQ ID NOS: 20
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 16
;   LENGTH: 7
;   TYPE: PRT
;   ORGANISM: Artificial sequence
;   FEATURE:
;   OTHER INFORMATION: Mutant Green Fluorescent Protein
US-09-575-847-16

  Query Match             69.4%;  Score 25;  DB 10;  Length 7;
  Best Local Similarity   75.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 HXRW 5
              |:||
Db          2 HQRW 5


RESULT 34
US-09-458-579-3
; Sequence 3, Application US/09458579
; Publication No. US20030144174A1
; GENERAL INFORMATION:
;  APPLICANT: Brennan, Miles B.
;  APPLICANT: Hochgeschwender, Ute
;  TITLE OF INVENTION: METHODS FOR IDENTIFYING COMPOUNDS USEFUL FOR THE
;  TITLE OF INVENTION: REGULATION OF BODY WEIGHT AND ASSOCIATED CONDITIONS
;  FILE REFERENCE: 3718-6
;  CURRENT APPLICATION NUMBER: US/09/458,579
;  CURRENT FILING DATE: 1999-12-09
;  EARLIER APPLICATION NUMBER: 60/111,581
;  EARLIER FILING DATE: 1998-12-09
;  EARLIER APPLICATION NUMBER: 60/146,306
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,305
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,304
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,303
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,302
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,301
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,300
;  EARLIER FILING DATE: 1999-07-29
;  EARLIER APPLICATION NUMBER: 60/146,299
;  EARLIER FILING DATE: 1999-07-29
;  NUMBER OF SEQ ID NOS: 6
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 3
;   LENGTH: 7
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   NAME/KEY: MOD_RES
;   LOCATION: (1)
;   OTHER INFORMATION: Xaa = Nle
;   FEATURE:
;   NAME/KEY: VARIANT
;   LOCATION: (2)
;   OTHER INFORMATION: Xaa = Glu or Asp
;   FEATURE:
;   NAME/KEY: VARIANT
;   LOCATION: (4)
;   OTHER INFORMATION: Xaa = Phe or D-Phe
;   FEATURE:
;   NAME/KEY: VARIANT
;   LOCATION: (7)
;   OTHER INFORMATION: Xaa = dibasic amino acid; Lys; Orn; Dbu; or Dpr
;   FEATURE:
;   NAME/KEY: PEPTIDE
;   LOCATION: (1)..(7)
;   OTHER INFORMATION: analog
US-09-458-579-3

  Query Match             69.4%;  Score 25;  DB 10;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 1e+06;
  Matches    4;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 HXRW 5
              ||||
Db          3 HXRW 6


RESULT 35
US-10-258-146A-45
; Sequence 45, Application US/10258146A
; Publication No. US20040052812A1
; GENERAL INFORMATION:
;  APPLICANT: Mee Hoe
;  APPLICANT:  Frank Landsberger
;  TITLE OF INVENTION: HEAT SHOCK PROTEIN-BASED ANTIVIRAL
;  TITLE OF INVENTION:  VACCINES
;  FILE REFERENCE: 11390/46301
;  CURRENT APPLICATION NUMBER: US/10/258,146A
;  CURRENT FILING DATE:  2003-09-05
;  PRIOR APPLICATION NUMBER: PCT/US01/12568
;  PRIOR FILING DATE: 2001-04-17
;  PRIOR APPLICATION NUMBER: 60/197,462
;  PRIOR FILING DATE: 2000-04-17
;  NUMBER OF SEQ ID NOS: 180
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 45
;   LENGTH: 7
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
```

```
;   OTHER INFORMATION: obtained from a phage synthetic peptide library
US-10-258-146A-45

  Query Match             69.4%;  Score 25;  DB 12;  Length 7;
  Best Local Similarity   75.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 HXRW 5
              |:||
Db          4 HLRW 7


RESULT 36
US-10-328-953-190
; Sequence 190, Application US/10328953
; Publication No. US20040071656A1
; GENERAL INFORMATION:
;  APPLICANT: Wieland, Felix
;  APPLICANT:  Hartl, Franz-Ulrich
;  TITLE OF INVENTION: Modulation of Heat-Shock-Protein-Based Immunotherapies
;  FILE REFERENCE: 11390/46101
;  CURRENT APPLICATION NUMBER: US/10/328,953
;  CURRENT FILING DATE:  2002-12-23
;  PRIOR APPLICATION NUMBER: US 60/342,570
;  PRIOR FILING DATE: 2001-12-26
;  PRIOR APPLICATION NUMBER: US 60/343,884
;  PRIOR FILING DATE: 2001-12-28
;  PRIOR APPLICATION NUMBER: US 60/372,620
;  PRIOR FILING DATE: 2002-04-12
;  PRIOR APPLICATION NUMBER: US 60/399,342
;  PRIOR FILING DATE: 2002-07-29
;  PRIOR APPLICATION NUMBER: US 60/414,834
;  PRIOR FILING DATE: 2002-09-28
;  NUMBER OF SEQ ID NOS: 331
;  SOFTWARE: WordPerfect 8.0 for Windows
; SEQ ID NO 190
;   LENGTH: 7
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: peptide in m13 coliphage
US-10-328-953-190

  Query Match             69.4%;  Score 25;  DB 12;  Length 7;
  Best Local Similarity   75.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 HXRW 5
              |:||
Db          4 HLRW 7


RESULT 37
US-10-052-578-187
; Sequence 187, Application US/10052578
; Publication No. US20030134787A1
; GENERAL INFORMATION:
;  APPLICANT: Sloan-Kettering Institute for Cancer Research
;  APPLICANT:  Rothman, James E.
;  APPLICANT:  Mayhew, Mark
;  APPLICANT:  Hoe, Mee H.
;  APPLICANT:  Houghton, Alan
;  APPLICANT:  Hartl, Ulrich
;  APPLICANT:  Ouerfelli, Ouathek
;  APPLICANT:  Moroi, Yoichi
;  TITLE OF INVENTION: CONJUGATE HEAT SHOCK PROTEIN-BINDING PEPTIDES
;  FILE REFERENCE: 11746/46003
;  CURRENT APPLICATION NUMBER: US/10/052,578
;  CURRENT FILING DATE:  2002-01-17
;  PRIOR APPLICATION NUMBER: 08/961,707
;  PRIOR FILING DATE: 1997-10-31
;  NUMBER OF SEQ ID NOS: 321
;  SOFTWARE: WordPerfect 8.0 for Windows
; SEQ ID NO 187
;   LENGTH: 7
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: peptide in m13 coliphage
US-10-052-578-187

  Query Match             69.4%;  Score 25;  DB 14;  Length 7;
  Best Local Similarity   75.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 HXRW 5
              |:||
Db          4 HLRW 7


RESULT 38
US-10-080-263C-32
; Sequence 32, Application US/10080263C
; Publication No. US20030143670A1
; GENERAL INFORMATION:
;  APPLICANT: Bonini, James A.
;  APPLICANT:  Huang, Ling-Yan
;  APPLICANT:  Wilson, Amy
;  TITLE OF INVENTION: DNA ENCODING SNORF44 RECEPTOR
;  FILE REFERENCE: 1795/59370-A/JPW/ADM/ANX
;  CURRENT APPLICATION NUMBER: US/10/080,263C
;  CURRENT FILING DATE:  2002-02-20
;  NUMBER OF SEQ ID NOS: 33
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 32
;   LENGTH: 7
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-080-263C-32

  Query Match             69.4%;  Score 25;  DB 14;  Length 7;
  Best Local Similarity   75.0%;  Pred. No. 1e+06;
  Matches    3;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 HXRW 5
              |:||
Db          4 HFRW 7


RESULT 39
US-10-053-520-187
; Sequence 187, Application US/10053520
; Publication No. US20030166530A1
; GENERAL INFORMATION:
;  APPLICANT: Sloan-Kettering Institute for Cancer Research
;  APPLICANT:  Rothman, James E.
;  APPLICANT:  Mayhew, Mark
;  APPLICANT:  Hoe, Mee H.
;  APPLICANT:  Houghton, Alan
;  APPLICANT:  Hartl, Ulrich
;  APPLICANT:  Ouerfelli, Ouathek
;  APPLICANT:  Moroi, Yoichi
;  TITLE OF INVENTION: CONJUGATE HEAT SHOCK PROTEIN-BINDING PEPTIDES
;  FILE REFERENCE: 11746/46004
;  CURRENT APPLICATION NUMBER: US/10/053,520
;  CURRENT FILING DATE:  2002-10-01
;  PRIOR APPLICATION NUMBER: 08/961,707
;  PRIOR FILING DATE: 1997-10-31
;  NUMBER OF SEQ ID NOS: 321
;  SOFTWARE: WordPerfect 8.0 for Windows
; SEQ ID NO 187
;   LENGTH: 7
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: peptide in m13 coliphage
```

US-10-053-520-187

Query Match 69.4%; Score 25; DB 14; Length 7;
Best Local Similarity 75.0%; Pred. No. 1e+06;
Matches 3; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy          2 HXRW 5
              |:||
Db          4 HLRW 7
```

RESULT 40
US-10-053-498B-187
; Sequence 187, Application US/10053498B
; Publication No. US20030194409A1
; GENERAL INFORMATION:
; APPLICANT: Sloan-Kettering Institute for Cancer Research
; APPLICANT: Rothman, James E.
; APPLICANT: Mayhew, Mark
; APPLICANT: Hoe, Mee H.
; APPLICANT: Houghton, Alan
; APPLICANT: Hartl, Ulrich
; APPLICANT: Ouerfelli, Ouathek
; APPLICANT: Moroi, Yoichi
; TITLE OF INVENTION: CONJUGATE HEAT SHOCK PROTEIN-BINDING PEPTIDES
; FILE REFERENCE: 11746/46002
; CURRENT APPLICATION NUMBER: US/10/053,498B
; CURRENT FILING DATE: 2002-01-17
; PRIOR APPLICATION NUMBER: 08/961,707
; PRIOR FILING DATE: 1997-10-31
; NUMBER OF SEQ ID NOS: 321
; SOFTWARE: WordPerfect 8.0 for Windows
; SEQ ID NO 187
; LENGTH: 7
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: peptide in m13 coliphage
US-10-053-498B-187

Query Match 69.4%; Score 25; DB 14; Length 7;
Best Local Similarity 75.0%; Pred. No. 1e+06;
Matches 3; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy          2 HXRW 5
              |:||
Db          4 HLRW 7
```

RESULT 41
US-10-620-099-16
; Sequence 16, Application US/10620099
; Publication No. US20040014128A1
; GENERAL INFORMATION:
; APPLICANT: THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
; APPLICANT: WACHTER, Rebekka
; APPLICANT: REMINGTON, James
; TITLE OF INVENTION: LONG WAVELENGTH ENGINEERED FLUORESCENT PROTEINS
; FILE REFERENCE: REGEN1250-5
; CURRENT APPLICATION NUMBER: US/10/620,099
; CURRENT FILING DATE: 2003-07-14
; PRIOR APPLICATION NUMBER: US/09/575,847
; PRIOR FILING DATE: 2000-05-19
; PRIOR APPLICATION NUMBER: US 08/974,737
; PRIOR FILING DATE: 1997-11-19
; PRIOR APPLICATION NUMBER: US 08/911,825
; PRIOR FILING DATE: 1997-08-15
; PRIOR APPLICATION NUMBER: US 08/706,408
; PRIOR FILING DATE: 1996-08-30
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 16
; LENGTH: 7
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Mutant Green Fluorescent Protein
US-10-620-099-16

Query Match 69.4%; Score 25; DB 15; Length 7;
Best Local Similarity 75.0%; Pred. No. 1e+06;
Matches 3; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy          2 HXRW 5
              |:||
Db          2 HQRW 5
```

RESULT 42
US-09-828-272A-3
; Sequence 3, Application US/09828272A
; Publication No. US20020183255A1
; GENERAL INFORMATION:
; APPLICANT: LIPTON, James M
; APPLICANT: CATANIA, Anna P
; TITLE OF INVENTION: USE OF KPV TRIPEPTIDE FOR DERMATOLOGICAL DISORDERS
; FILE REFERENCE: 259/058
; CURRENT APPLICATION NUMBER: US/09/828,272A
; CURRENT FILING DATE: 2001-04-06
; NUMBER OF SEQ ID NOS: 7
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 3
; LENGTH: 8
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Designed polypeptide with anti-inflammatory, anti-bacterial, anti
; OTHER INFORMATION: -fungal and antipyretic properties.
US-09-828-272A-3

Query Match 69.4%; Score 25; DB 9; Length 8;
Best Local Similarity 75.0%; Pred. No. 1e+06;
Matches 3; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy          2 HXRW 5
              |:||
Db          1 HFRW 4
```

RESULT 43
US-09-774-282-3
; Sequence 3, Application US/09774282
; Publication No. US20020146374A1
; GENERAL INFORMATION:
; APPLICANT: LIPTON, JAMES M.
; TITLE OF INVENTION: A COMPOUND AND METHOD OF TREATMENT FOR FUNGAL PATHOLOGIES
; TITLE OF INVENTION: OF THE ORAL CAVITY
; FILE REFERENCE: 54275.8010.US00
; CURRENT APPLICATION NUMBER: US/09/774,282
; CURRENT FILING DATE: 2001-01-29
; NUMBER OF SEQ ID NOS: 10
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 3
; LENGTH: 8
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic
; OTHER INFORMATION: peptide
; FEATURE:
; OTHER INFORMATION: n-term may or may not be acetylated
; FEATURE:
; OTHER INFORMATION: c-term may or may not be amidated
US-09-774-282-3

Query Match 69.4%; Score 25; DB 12; Length 8;

Best Local Similarity 75.0%; Pred. No. 1e+06;
Matches 3; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy          2 HXRW 5
              |:||
Db          1 HFRW 4
```

RESULT 44
US-10-235-682-3
; Sequence 3, Application US/10235682
; Publication No. US20030108523A1
; GENERAL INFORMATION:
; APPLICANT: Lipton, James
; APPLICANT: Catania, Anna P.
; TITLE OF INVENTION: A CANCER TREATMENT SYSTEM
; FILE REFERENCE: 8022.US01
; CURRENT APPLICATION NUMBER: US/10/235,682
; CURRENT FILING DATE: 2002-09-05
; PRIOR APPLICATION NUMBER: US 60/317,514
; PRIOR FILING DATE: 2002-09-05
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 3
; LENGTH: 8
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Designed polypeptide with anti-inflammatory, anti-microbial, anti
; OTHER INFORMATION: -fungal, anti-viral, and anti-cancer properties.
US-10-235-682-3

Query Match 69.4%; Score 25; DB 14; Length 8;
Best Local Similarity 75.0%; Pred. No. 1e+06;
Matches 3; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy          2 HXRW 5
              |:||
Db          1 HFRW 4
```

RESULT 45
US-10-015-055-2
; Sequence 2, Application US/10015055
; Publication No. US20030109453A1
; GENERAL INFORMATION:
; APPLICANT: CATANIA, Anna P
; APPLICANT: LIPTON, James M
; TITLE OF INVENTION: A COMPOUND AND METHOD FOR THE TREATMENT OF SINUSITIS
; FILE REFERENCE: 259/061
; CURRENT APPLICATION NUMBER: US/10/015,055
; CURRENT FILING DATE: 2001-12-10
; NUMBER OF SEQ ID NOS: 3
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 8
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Designed polypeptide with anti-inflammatory, anti-bacterial, anti
; OTHER INFORMATION: -fungal and antipyretic properties.
US-10-015-055-2

Query Match 69.4%; Score 25; DB 14; Length 8;
Best Local Similarity 75.0%; Pred. No. 1e+06;
Matches 3; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy          2 HXRW 5
              |:||
Db          1 HFRW 4
```

Search completed: May 18, 2004, 16:02:20

Job time : 42 secs

OM protein - protein search, using sw model

Run on: May 18, 2004, 15:53:06 ; Search time 20 Seconds
(without alignments)
28.857 Million cell updates/sec

Title: CLAIM11
Perfect score: 36
Sequence: 1 DHXRWK 6

Scoring table: BLOSUM62DX
Gapop 10.0 , Gapext 0.5

Searched: 283366 seqs, 96191526 residues

Total number of hits satisfying chosen parameters: 1101

Minimum DB seq length: 0
Maximum DB seq length: 10

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_78:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	22	61.1	8	2	A31570	angiotensin-conver
2	20	55.6	7	2	A28709	phosphonoacetaldeh
3	19	52.8	9	2	D57444	neuropeptide Grb-A
4	18	50.0	8	2	PQ0012	cholecystokinin -
5	18	50.0	8	2	A43001	cholecystokinin -
6	18	50.0	10	2	A61337	caerulein - frog (
7	18	50.0	10	2	A13687	caerulein-like pep
8	18	50.0	10	2	S59625	beta-galactosidase
9	17	47.2	5	2	A60803	neuropeptide - sea
10	17	47.2	8	2	T13818	cytochrome oxidase
11	17	47.2	10	1	RHLMGS	gonadoliberin - se
12	17	47.2	10	2	S66248	processing enzyme,
13	17	47.2	10	2	S23370	T-cell receptor al
14	17	47.2	10	2	F49033	T-cell receptor ga
15	17	47.2	10	2	T17054	cytochrome-c oxida
16	17	47.2	10	2	T17075	cytochrome-c oxida
17	17	47.2	10	2	T13976	cytochrome-c oxida
18	17	47.2	10	2	T17057	cytochrome-c oxida
19	17	47.2	10	2	T12303	cytochrome-c oxida
20	17	47.2	10	2	T14019	cytochrome-c oxida
21	17	47.2	10	2	T17060	cytochrome-c oxida
22	17	47.2	10	2	T17063	cytochrome-c oxida
23	17	47.2	10	2	T12325	cytochrome-c oxida
24	17	47.2	10	2	T14043	cytochrome-c oxida
25	17	47.2	10	2	T14054	cytochrome-c oxida
26	17	47.2	10	2	T17066	cytochrome-c oxida
27	17	47.2	10	2	T17069	cytochrome-c oxida
28	17	47.2	10	2	T12308	cytochrome-c oxida
29	17	47.2	10	2	T17072	cytochrome-c oxida
30	17	47.2	10	2	T12312	cytochrome-c oxida
31	17	47.2	10	2	T12329	cytochrome-c oxida
32	17	47.2	10	2	T12316	cytochrome-c oxida
33	17	47.2	10	2	T14212	cytochrome-c oxida
34	17	47.2	10	2	T12321	cytochrome-c oxida
35	17	47.2	10	2	T14215	cytochrome-c oxida
36	17	47.2	10	2	T14223	cytochrome-c oxida
37	17	47.2	10	2	T14219	cytochrome-c oxida
38	16	44.4	6	2	PD0028	pev-kinin 2 - pena
39	16	44.4	6	4	I79564	hypothetical TCL3
40	16	44.4	7	2	S33244	neuromodulatory pe
41	16	44.4	7	2	S33246	neuromodulatory pe
42	16	44.4	8	2	JS0318	leucokinin VIII -
43	16	44.4	10	2	A49187	gonadotropin-relea
44	16	44.4	10	2	PT0245	Ig heavy chain CRD
45	15	41.7	6	2	S71349	beta-crystallin B2

ALIGNMENTS

RESULT 1
A31570
angiotensin-converting enzyme inhibitor - yellowfin tuna
C;Species: Thunnus albacares (yellowfin tuna)
C;Date: 31-Mar-1990 #sequence_revision 31-Mar-1990 #text_change 18-Aug-2000
C;Accession: A31570
R;Kohama, Y.; Matsumoto, S.; Oka, H.; Teramoto, T.; Okabe, M.; Mimura, T.
Biochem. Biophys. Res. Commun. 155, 332-337, 1988
A;Title: Isolation of angiotensin-converting enzyme inhibitor from tuna muscle.
A;Reference number: A31570; MUID:88326322; PMID:3415688
A;Accession: A31570
A;Molecule type: protein
A;Residues: 1-8 <KOH>
A;Note: the source is designated as Neothunnus macropterus
C;Superfamily: unassigned animal peptides
C;Keywords: angiotensin-converting enzyme inhibitor

Query Match 61.1%; Score 22; DB 2; Length 8;
Best Local Similarity 50.0%; Pred. No. 2.8e+05;
Matches 2; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

```
Qy          2 HXRW 5
              |::|
Db          3 HIKW 6
```

RESULT 2
A28709
phosphonoacetaldehyde hydrolase - Bacillus cereus (fragment)
C;Species: Bacillus cereus
C;Date: 22-Aug-1988 #sequence_revision 22-Aug-1988 #text_change 30-Sep-1993
C;Accession: A28709
R;Olsen, D.B.; Hepburn, T.W.; Moos, M.; Mariano, P.S.; Dunaway-Mariano, D.
Biochemistry 27, 2229-2234, 1988
A;Title: Investigation of the Bacillus cereus phosphonoacetaldehyde hydrolase. Evidence f
idue.
A;Reference number: A28709; MUID:88241058; PMID:3132206
A;Accession: A28709
A;Status: preliminary
A;Molecule type: protein
A;Residues: 1-7 <OLS>

Query Match 55.6%; Score 20; DB 2; Length 7;
Best Local Similarity 75.0%; Pred. No. 2.8e+05;
Matches 3; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 DHXR 4
              ||:|
Db          4 DHVR 7
```

RESULT 3

```
D57444
neuropeptide Grb-AST B4 - two-spotted cricket
C;Species: Gryllus bimaculatus (two-spotted cricket)
C;Date: 26-Jan-1996 #sequence_revision 26-Jan-1996 #text_change 26-Jan-1996
C;Accession: D57444
R;Lorenz, M.W.; Kellner, R.; Hoffmann, K.H.
J. Biol. Chem. 270, 21103-21108, 1995
A;Title: A family of neuropeptides that inhibit juvenile hormone biosynthesis in the cri
A;Reference number: A57444; MUID:95403341; PMID:7673141
A;Accession: D57444
A;Status: preliminary
A;Molecule type: protein
A;Residues: 1-9 <LOR>

  Query Match             52.8%;  Score 19;  DB 2;  Length 9;
  Best Local Similarity   50.0%;  Pred. No. 2.8e+05;
  Matches    2;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 HXRW 5
              |:: |
Db          6 HGSW 9


RESULT 4
PQ0012
cholecystokinin - southeastern quoll
N;Alternate names: CCK
C;Species: Dasyurus viverrinus (southeastern quoll)
C;Date: 07-Sep-1990 #sequence_revision 07-Sep-1990 #text_change 13-Sep-1996
C;Accession: PQ0012
R;Fan, Z.W.; Eng, J.; Shaw, G.; Yalow, R.S.
Peptides 9, 429-431, 1988
A;Title: Cholecystokinin octapeptide purified from brains of Australian marsupials.
A;Reference number: PQ0012; MUID:88234141; PMID:3375140
A;Accession: PQ0012
A;Molecule type: protein
A;Residues: 1-8 <FAN>
C;Superfamily: gastrin
C;Keywords: amidated carboxyl end; hormone; neuropeptide; sulfoprotein
F;2/Binding site: sulfate (Tyr) (covalent) #status predicted
F;8/Modified site: amidated carboxyl end (Phe) #status predicted

  Query Match             50.0%;  Score 18;  DB 2;  Length 8;
  Best Local Similarity   40.0%;  Pred. No. 2.8e+05;
  Matches    2;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              |:: |
Db          1 DYMGW 5


RESULT 5
A43001
cholecystokinin - tammar wallaby
N;Alternate names: CCK
C;Species: Macropus eugenii (tammar wallaby)
C;Date: 30-Oct-1992 #sequence_revision 30-Oct-1992 #text_change 13-Sep-1996
C;Accession: A43001; PQ0012
R;Fan, Z.W.; Eng, J.; Shaw, G.; Yalow, R.S.
Peptides 9, 429-431, 1988
A;Title: Cholecystokinin octapeptide purified from brains of Australian marsupials.
A;Reference number: PQ0012; MUID:88234141; PMID:3375140
A;Accession: A43001
A;Molecule type: protein
A;Residues: 1-8 <FAN>
C;Superfamily: gastrin
C;Keywords: amidated carboxyl end; hormone; neuropeptide; sulfoprotein
F;2/Binding site: sulfate (Tyr) (covalent) #status predicted
F;8/Modified site: amidated carboxyl end (Phe) #status predicted

  Query Match             50.0%;  Score 18;  DB 2;  Length 8;
  Best Local Similarity   40.0%;  Pred. No. 2.8e+05;
  Matches    2;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              |:: |
Db          1 DYMGW 5


RESULT 6
A61337
caerulein - frog (Hyla caerulea)
C;Species: Hyla caerulea
C;Date: 05-Aug-1994 #sequence_revision 05-Aug-1994 #text_change 07-May-1999
C;Accession: A61337
R;Anastasi, A.; Erspamer, V.; Endean, R.
Arch. Biochem. Biophys. 125, 57-68, 1968
A;Title: Isolation and amino acid sequence of caerulein, the active decapeptide of the s
A;Reference number: A61337; MUID:68238534; PMID:5649531
A;Accession: A61337
A;Molecule type: protein
A;Residues: 1-10 <ANA>
C;Comment: The last five amino acids and the carboxyl terminal amide group of this neuro
C;Comment: This amphibian skin peptide can cause a sustained lowering of blood pressure
C;Superfamily: gastrin
C;Keywords: amidated carboxyl end; antihypertensive; neuropeptide; pyroglutamic acid; se
F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F;4/Binding site: sulfate (Tyr) (covalent) #status experimental
F;10/Modified site: amidated carboxyl end (Phe) #status experimental

  Query Match             50.0%;  Score 18;  DB 2;  Length 10;
  Best Local Similarity   40.0%;  Pred. No. 1.5e+03;
  Matches    2;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              |:: |
Db          3 DYTGW 7


RESULT 7
A13687
caerulein-like peptide - African tree frog (Kassina maculata)
C;Species: Kassina maculata
C;Date: 13-Mar-1997 #sequence_revision 13-Mar-1997 #text_change 02-Sep-2000
C;Accession: A13687
R;Montecucchi, P.; Falconieri Erspamer, G.; Visser, J.
Experientia 33, 1138-1139, 1977
A;Title: Occurrence of Asn(2),Leu(5)-caerulein in the skin of the African frog Hylambate
A;Reference number: A13687; MUID:77246547; PMID:891852
A;Accession: A13687
A;Status: preliminary
A;Molecule type: protein
A;Residues: 1-10 <MON>
C;Superfamily: gastrin
C;Keywords: amidated carboxyl end; neuropeptide; pyroglutamic acid; skin; sulfoprotein
F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F;4/Binding site: sulfate (Tyr) (covalent) #status experimental
F;10/Modified site: amidated carboxyl end (Phe) #status experimental

  Query Match             50.0%;  Score 18;  DB 2;  Length 10;
  Best Local Similarity   40.0%;  Pred. No. 1.5e+03;
  Matches    2;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              |:: |
Db          3 DYLGW 7


RESULT 8
S59625
beta-galactosidase alpha chain - Escherichia coli (fragment)
C;Species: Escherichia coli
C;Date: 20-Jul-1996 #sequence_revision 13-Mar-1997 #text_change 07-May-1999
C;Accession: S59625
R;Calugaru, S.V.; Hall, B.G.; Sinnott, M.L.
Biochem. J. 312, 281-286, 1995
```

```
A;Title: Catalysis by the large subunit of the second beta-galactosidase of Escherichia
A;Reference number: S59625; MUID:96077156; PMID:7492325
A;Accession: S59625
A;Status: preliminary
A;Molecule type: protein
A;Residues: 1-10 <CAL>

  Query Match             50.0%;  Score 18;  DB 2;  Length 10;
  Best Local Similarity   75.0%;  Pred. No. 1.5e+03;
  Matches    3;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRWK 6
              |||:
Db          2 XRWE 5


RESULT 9
A60803
neuropeptide - sea anemone (Anthopleura elegantissima)
C;Species: Anthopleura elegantissima
C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 07-May-1999
C;Accession: A60803
R;Graff, D.; Grimmelikhuijzen, C.J.P.
Brain Res. 442, 354-358, 1988
A;Title: Isolation of <Glu-Ser-Lu-Arg-Trp-NH-2, a novel neuropeptide from sea anemones.
A;Reference number: A60803; MUID:88222764; PMID:2897223
A;Accession: A60803
A;Molecule type: protein
A;Residues: 1-5 <GRA>
C;Keywords: amidated carboxyl end; neuropeptide; pyroglutamic acid
F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F;5/Modified site: amidated carboxyl end (Trp) #status experimental

  Query Match             47.2%;  Score 17;  DB 2;  Length 5;
  Best Local Similarity   66.7%;  Pred. No. 2.8e+05;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          3 LRW 5


RESULT 10
T13818
cytochrome oxidase subunit I - Atlantic hagfish mitochondrion (fragment)
C;Species: mitochondrion Myxine glutinosa (Atlantic hagfish)
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 21-Jul-2000
C;Accession: T13818
R;Delarbre, C.; Barriel, V.; Tillier, S.; Janvier, P.; Gachelin, G.
Mol. Biol. Evol. 14, 807-813, 1997
A;Title: The main features of the craniate mitochondrial DNA between the ND1 and the COI
A;Reference number: Z17775; MUID:97398704; PMID:9254918
A;Accession: T13818
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-8 <DEL>
A;Cross-references: EMBL:Y09527; NID:g2340019; PIDN:CAA70718.1; PID:g2340022
C;Genetics:
A;Genome: mitochondrion
A;Note: COI
C;Keywords: mitochondrion

  Query Match             47.2%;  Score 17;  DB 2;  Length 8;
  Best Local Similarity   66.7%;  Pred. No. 2.8e+05;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 SRW 6


RESULT 11
RHLMGS
gonadoliberin - sea lamprey
N;Alternate names: gonadotropin releasing hormone (GnRH)
C;Species: Petromyzon marinus (sea lamprey)
C;Date: 17-Mar-1987 #sequence_revision 17-Mar-1987 #text_change 18-Mar-1997
C;Accession: A01412
R;Sherwood, N.M.; Sower, S.A.; Marshak, D.R.; Fraser, B.A.; Brownstein, M.J.
J. Biol. Chem. 261, 4812-4819, 1986
A;Title: Primary structure of gonadotropin-releasing hormone from lamprey brain.
A;Reference number: A01412; MUID:86168192; PMID:3514603
A;Accession: A01412
A;Molecule type: protein
A;Residues: 1-10 <SHE>
C;Comment: This hormone was isolated from the brain.
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; pyroglutamic acid
F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F;10/Modified site: amidated carboxyl end (Gly) #status experimental

  Query Match             47.2%;  Score 17;  DB 1;  Length 10;
  Best Local Similarity   50.0%;  Pred. No. 2.3e+03;
  Matches    2;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          3 XRWK 6
              : ||
Db          5 LEWK 8


RESULT 12
S66248
processing enzyme, 33K - black gram (fragment)
C;Species: Vigna mungo (black gram)
C;Date: 14-Feb-1997 #sequence_revision 13-Mar-1997 #text_change 13-Mar-1997
C;Accession: S66248
R;Okamoto, T.; Minamikawa, T.
Eur. J. Biochem. 231, 300-305, 1995
A;Title: Purification of a processing enzyme (VmPE-1) that is involved in post-translatic
A;Reference number: S66248; MUID:95361851; PMID:7635141
A;Accession: S66248
A;Status: preliminary
A;Molecule type: protein
A;Residues: 1-10 <OKA>

  Query Match             47.2%;  Score 17;  DB 2;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.3e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 TRW 6


RESULT 13
S23370
T-cell receptor alpha chain J region - human (fragment)
C;Species: Homo sapiens (man)
C;Date: 22-Nov-1993 #sequence_revision 26-May-1995 #text_change 17-Mar-1999
C;Accession: S23370
R;Pluschke, G.; Ricken, G.; Taube, H.; Kroninger, S.; Melchers, I.; Peter, H.H.; Eichmanr
Eur. J. Immunol. 21, 2749-2754, 1991
A;Title: Biased T cell receptor V(alpha) region repertoire in the synovial fluid of rheun
A;Reference number: S23364; MUID:92037820; PMID:1657615
A;Accession: S23370
A;Status: preliminary; translation not shown
A;Molecule type: mRNA
A;Residues: 1-10 <PLU>
A;Cross-references: EMBL:X58165
C;Keywords: T-cell receptor

  Query Match             47.2%;  Score 17;  DB 2;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.3e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
```

```
              :||
Db          1 ERW 3


RESULT 14
F49033
T-cell receptor gamma chain V-D-J region - human (fragment)
C;Species: Homo sapiens (man)
C;Date: 19-Dec-1993 #sequence_revision 17-Mar-2000 #text_change 17-Mar-2000
C;Accession: F49033
R;Morita, C.T.; Verma, S.; Aparicio, P.; Martinez, C.; Spits, H.; Brenner, M.B.
Eur. J. Immunol. 21, 2999-3007, 1991
A;Title: Functionally distinct subsets of human gamma/delta T cells.
A;Reference number: A49033; MUID:92083926; PMID:1684157
A;Accession: F49033
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-10 <MOR>
A;Cross-references: GB:S72605; NID:g240700; PIDN:AAB20632.1; PID:g240701
A;Note: sequence extracted from NCBI backbone (NCBIN:72605, NCBIP:72606)
C;Keywords: T-cell receptor

  Query Match             47.2%;  Score 17;  DB 2;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.3e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          5 ERW 7


RESULT 15
T17054
cytochrome-c oxidase (EC 1.9.3.1) chain I - Basiliscus plumifrons mitochondrion (fragmen
C;Species: mitochondrion Basiliscus plumifrons
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 22-Oct-1999
C;Accession: T17054
R;Macey, J.R.; Larson, A.; Ananjeva, N.B.; Papenfuss, T.J.
J. Mol. Evol. 44, 660-674, 1997
A;Title: Evolutionary shifts in three major structural features of the mitochondrial gen
A;Reference number: Z18674; MUID:97315309; PMID:9169559
A;Accession: T17054
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <MAC>
A;Cross-references: EMBL:U82680; NID:g3603104; PID:g3603107; PIDN:AAC62269.1
C;Genetics:
A;Genome: mitochondrion
A;Note: COI
C;Keywords: mitochondrion; oxidoreductase

  Query Match             47.2%;  Score 17;  DB 2;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.3e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 NRW 6


RESULT 16
T17075
cytochrome-c oxidase (EC 1.9.3.1) chain I - Chamaeleo fischeri mitochondrion (fragment)
C;Species: mitochondrion Chamaeleo fischeri
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 22-Oct-1999
C;Accession: T17075
R;Macey, J.R.; Larson, A.; Ananjeva, N.B.; Papenfuss, T.J.
J. Mol. Evol. 44, 660-674, 1997
A;Title: Evolutionary shifts in three major structural features of the mitochondrial gen
A;Reference number: Z18674; MUID:97315309; PMID:9169559
A;Accession: T17075
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <MAC>
A;Cross-references: EMBL:U82688; NID:g3603112; PID:g3603115; PIDN:AAC62275.1
C;Genetics:
A;Genome: mitochondrion
A;Note: COI
C;Keywords: mitochondrion; oxidoreductase

  Query Match             47.2%;  Score 17;  DB 2;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.3e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 LRW 6


RESULT 17
T13976
cytochrome-c oxidase (EC 1.9.3.1) chain I - Cnemidophorus tigris mitochondrion (fragment
C;Species: mitochondrion Cnemidophorus tigris
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 11-May-2000
C;Accession: T13976
R;Macey, J.R.; Larson, A.; Ananjeva, N.B.; Fang, Z.; Papenfuss, T.J.
Mol. Biol. Evol. 14, 91-104, 1997
A;Title: Two novel gene orders and the role of light-strand replication in rearrangement
A;Reference number: Z17789; MUID:97153826; PMID:9000757
A;Accession: T13976
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <MAC>
A;Cross-references: EMBL:U71332; NID:g1753236; PID:g1753239; PIDN:AAB48274.1
C;Genetics:
A;Genome: mitochondrion
A;Note: CO1
C;Keywords: mitochondrion; oxidoreductase

  Query Match             47.2%;  Score 17;  DB 2;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.3e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 TRW 6


RESULT 18
T17057
cytochrome-c oxidase (EC 1.9.3.1) chain I - Crotaphytus collaris mitochondrion (fragment
C;Species: mitochondrion Crotaphytus collaris
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 22-Oct-1999
C;Accession: T17057
R;Macey, J.R.; Larson, A.; Ananjeva, N.B.; Papenfuss, T.J.
J. Mol. Evol. 44, 660-674, 1997
A;Title: Evolutionary shifts in three major structural features of the mitochondrial gen
A;Reference number: Z18674; MUID:97315309; PMID:9169559
A;Accession: T17057
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <MAC>
A;Cross-references: EMBL:U82681; NID:g3603108; PID:g3603111; PIDN:AAC62272.1
C;Genetics:
A;Genome: mitochondrion
A;Note: COI
C;Keywords: mitochondrion; oxidoreductase

  Query Match             47.2%;  Score 17;  DB 2;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.3e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 TRW 6
```

```
RESULT 19
T12303
cytochrome-c oxidase (EC 1.9.3.1) chain I - Dipsosaurus dorsalis mitochondrion (fragment
C;Species: mitochondrion Dipsosaurus dorsalis
C;Date: 23-Jul-1999 #sequence_revision 23-Jul-1999 #text_change 22-Oct-1999
C;Accession: T12303
R;Schulte, J.A.; Macey, J.R.; Larson, A.; Papenfuss, T.J.
Mol. Phylogenet. Evol. 10, 367-376, 1998
A;Title: Molecular tests of phylogenetic taxonomies: A general procedure and example usi
A;Reference number: Z17488; MUID:99162288; PMID:10051389
A;Accession: T12303
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <SCH>
A;Cross-references: EMBL:AF049857; NID:g4105726; PID:g4105729; PIDN:AAD02514.1
C;Genetics:
A;Genome: mitochondrion
A;Note: COI
C;Keywords: mitochondrion; oxidoreductase

  Query Match             47.2%;  Score 17;  DB 2;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.3e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 TRW 6


RESULT 20
T14019
cytochrome-c oxidase (EC 1.9.3.1) chain I - Eremias grammica mitochondrion (fragment)
C;Species: mitochondrion Eremias grammica
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 11-May-2000
C;Accession: T14019
R;Macey, J.R.; Larson, A.; Ananjeva, N.B.; Fang, Z.; Papenfuss, T.J.
Mol. Biol. Evol. 14, 91-104, 1997
A;Title: Two novel gene orders and the role of light-strand replication in rearrangement
A;Reference number: Z17789; MUID:97153826; PMID:9000757
A;Accession: T14019
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <MAC>
A;Cross-references: EMBL:U71331; NID:g1753240; PID:g1753243; PIDN:AAB48277.1
C;Genetics:
A;Genome: mitochondrion
A;Note: CO1
C;Keywords: mitochondrion; oxidoreductase

  Query Match             47.2%;  Score 17;  DB 2;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.3e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 IRW 6


RESULT 21
T17060
cytochrome-c oxidase (EC 1.9.3.1) chain I - Gambelia wislizenii mitochondrion (fragment)
C;Species: mitochondrion Gambelia wislizenii
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 22-Oct-1999
C;Accession: T17060
R;Macey, J.R.; Larson, A.; Ananjeva, N.B.; Papenfuss, T.J.
J. Mol. Evol. 44, 660-674, 1997
A;Title: Evolutionary shifts in three major structural features of the mitochondrial gen
A;Reference number: Z18674; MUID:97315309; PMID:9169559
A;Accession: T17060
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <MAC>
A;Cross-references: EMBL:U82682; NID:g3603120; PID:g3603123; PIDN:AAC62281.1
C;Genetics:
A;Genome: mitochondrion
A;Note: COI
C;Keywords: mitochondrion; oxidoreductase

  Query Match             47.2%;  Score 17;  DB 2;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.3e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 TRW 6


RESULT 22
T17063
cytochrome-c oxidase (EC 1.9.3.1) chain I - Hoplocercus spinosus mitochondrion (fragment
C;Species: mitochondrion Hoplocercus spinosus
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 22-Oct-1999
C;Accession: T17063
R;Macey, J.R.; Larson, A.; Ananjeva, N.B.; Papenfuss, T.J.
J. Mol. Evol. 44, 660-674, 1997
A;Title: Evolutionary shifts in three major structural features of the mitochondrial gen
A;Reference number: Z18674; MUID:97315309; PMID:9169559
A;Accession: T17063
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <MAC>
A;Cross-references: EMBL:U82683; NID:g3603124; PID:g3603127; PIDN:AAC62284.1
C;Genetics:
A;Genome: mitochondrion
A;Note: COI
C;Keywords: mitochondrion; oxidoreductase

  Query Match             47.2%;  Score 17;  DB 2;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.3e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 SRW 6


RESULT 23
T12325
cytochrome-c oxidase (EC 1.9.3.1) chain I - Leiocephalus carinatus mitochondrion (fragmer
C;Species: mitochondrion Leiocephalus carinatus
C;Date: 23-Jul-1999 #sequence_revision 23-Jul-1999 #text_change 22-Oct-1999
C;Accession: T12325
R;Schulte, J.A.; Macey, J.R.; Larson, A.; Papenfuss, T.J.
Mol. Phylogenet. Evol. 10, 367-376, 1998
A;Title: Molecular tests of phylogenetic taxonomies: A general procedure and example usi
A;Reference number: Z17488; MUID:99162288; PMID:10051389
A;Accession: T12325
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <SCH>
A;Cross-references: EMBL:AF049864; NID:g4105754; PID:g4105757; PIDN:AAD02535.1
C;Genetics:
A;Genome: mitochondrion
A;Note: COI
C;Keywords: mitochondrion; oxidoreductase

  Query Match             47.2%;  Score 17;  DB 2;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.3e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 TRW 6
```

RESULT 24
T14043
cytochrome-c oxidase (EC 1.9.3.1) chain I - Lialis jicari mitochondrion (fragment)
C;Species: mitochondrion Lialis jicari
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 11-May-2000
C;Accession: T14043
R;Macey, J.R.; Larson, A.; Ananjeva, N.B.; Fang, Z.; Papenfuss, T.J.
Mol. Biol. Evol. 14, 91-104, 1997
A;Title: Two novel gene orders and the role of light-strand replication in rearrangement
A;Reference number: Z17789; MUID:97153826; PMID:9000757
A;Accession: T14043
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <MAC>
A;Cross-references: EMBL:U71327; NID:g1753244; PID:g1753247; PIDN:AAB48280.1
C;Genetics:
A;Genome: mitochondrion
A;Note: CO1
C;Keywords: mitochondrion; oxidoreductase

  Query Match 47.2%; Score 17; DB 2; Length 10;
  Best Local Similarity 66.7%; Pred. No. 2.3e+03;
  Matches 2; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 3 XRW 5
:||
Db 4 NRW 6

RESULT 25
T14054
cytochrome-c oxidase (EC 1.9.3.1) chain I - Mabuya aurata mitochondrion (fragment)
C;Species: mitochondrion Mabuya aurata
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 11-May-2000
C;Accession: T14054
R;Macey, J.R.; Larson, A.; Ananjeva, N.B.; Fang, Z.; Papenfuss, T.J.
Mol. Biol. Evol. 14, 91-104, 1997
A;Title: Two novel gene orders and the role of light-strand replication in rearrangement
A;Reference number: Z17789; MUID:97153826; PMID:9000757
A;Accession: T14054
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <MAC>
A;Cross-references: EMBL:U71330; NID:g1753248; PID:g1753251; PIDN:AAB48283.1
C;Genetics:
A;Genome: mitochondrion
A;Note: CO1
C;Keywords: mitochondrion; oxidoreductase

  Query Match 47.2%; Score 17; DB 2; Length 10;
  Best Local Similarity 66.7%; Pred. No. 2.3e+03;
  Matches 2; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 3 XRW 5
:||
Db 4 NRW 6

RESULT 26
T17066
cytochrome-c oxidase (EC 1.9.3.1) chain I - Oplurus cuvieri mitochondrion (fragment)
C;Species: mitochondrion Oplurus cuvieri
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 22-Oct-1999
C;Accession: T17066
R;Macey, J.R.; Larson, A.; Ananjeva, N.B.; Papenfuss, T.J.
J. Mol. Evol. 44, 660-674, 1997
A;Title: Evolutionary shifts in three major structural features of the mitochondrial gen
A;Reference number: Z18674; MUID:97315309; PMID:9169559
A;Accession: T17066
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <MAC>
A;Cross-references: EMBL:U82685; NID:g3603136; PID:g3603139; PIDN:AAC62293.1
C;Genetics:
A;Genome: mitochondrion
A;Note: COI
C;Keywords: mitochondrion; oxidoreductase

  Query Match 47.2%; Score 17; DB 2; Length 10;
  Best Local Similarity 66.7%; Pred. No. 2.3e+03;
  Matches 2; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 3 XRW 5
:||
Db 4 NRW 6

RESULT 27
T17069
cytochrome-c oxidase (EC 1.9.3.1) chain I - Phrynosoma douglassii mitochondrion (fragmen
C;Species: mitochondrion Phrynosoma douglassii
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 22-Oct-1999
C;Accession: T17069
R;Macey, J.R.; Larson, A.; Ananjeva, N.B.; Papenfuss, T.J.
J. Mol. Evol. 44, 660-674, 1997
A;Title: Evolutionary shifts in three major structural features of the mitochondrial gen
A;Reference number: Z18674; MUID:97315309; PMID:9169559
A;Accession: T17069
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <MAC>
A;Cross-references: EMBL:U82686; NID:g3603144; PID:g3603147; PIDN:AAC62299.1
C;Genetics:
A;Genome: mitochondrion
A;Note: COI
C;Keywords: mitochondrion; oxidoreductase

  Query Match 47.2%; Score 17; DB 2; Length 10;
  Best Local Similarity 66.7%; Pred. No. 2.3e+03;
  Matches 2; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 3 XRW 5
:||
Db 4 NRW 6

RESULT 28
T12308
cytochrome-c oxidase (EC 1.9.3.1) chain I - Sator angustus mitochondrion (fragment)
C;Species: mitochondrion Sator angustus
C;Date: 23-Jul-1999 #sequence_revision 23-Jul-1999 #text_change 22-Oct-1999
C;Accession: T12308
R;Schulte, J.A.; Macey, J.R.; Larson, A.; Papenfuss, T.J.
Mol. Phylogenet. Evol. 10, 367-376, 1998
A;Title: Molecular tests of phylogenetic taxonomies: A general procedure and example usi
A;Reference number: Z17488; MUID:99162288; PMID:10051389
A;Accession: T12308
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <SCH>
A;Cross-references: EMBL:AF049859; NID:g4105734; PID:g4105737; PIDN:AAD02520.1
C;Genetics:
A;Genome: mitochondrion
A;Note: COI
C;Keywords: mitochondrion; oxidoreductase

  Query Match 47.2%; Score 17; DB 2; Length 10;
  Best Local Similarity 66.7%; Pred. No. 2.3e+03;
  Matches 2; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 3 XRW 5
:||
Db 4 NRW 6

RESULT 29

```
T17072
cytochrome-c oxidase (EC 1.9.3.1) chain I - Sauromalus obesus mitochondrion (fragment)
C;Species: mitochondrion Sauromalus obesus
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 22-Oct-1999
C;Accession: T17072
R;Macey, J.R.; Larson, A.; Ananjeva, N.B.; Papenfuss, T.J.
J. Mol. Evol. 44, 660-674, 1997
A;Title: Evolutionary shifts in three major structural features of the mitochondrial gen
A;Reference number: Z18674; MUID:97315309; PMID:9169559
A;Accession: T17072
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <MAC>
A;Cross-references: EMBL:U82687; NID:g3603152; PID:g3603155; PIDN:AAC62305.1
C;Genetics:
A;Genome: mitochondrion
A;Note: COI
C;Keywords: mitochondrion; oxidoreductase

  Query Match             47.2%;  Score 17;  DB 2;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.3e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 TRW 6


RESULT 30
T12312
cytochrome-c oxidase (EC 1.9.3.1) chain I - Sceloporus graciosus mitochondrion (fragment
C;Species: mitochondrion Sceloporus graciosus
C;Date: 23-Jul-1999 #sequence_revision 23-Jul-1999 #text_change 22-Oct-1999
C;Accession: T12312
R;Schulte, J.A.; Macey, J.R.; Larson, A.; Papenfuss, T.J.
Mol. Phylogenet. Evol. 10, 367-376, 1998
A;Title: Molecular tests of phylogenetic taxonomies: A general procedure and example usi
A;Reference number: Z17488; MUID:99162288; PMID:10051389
A;Accession: T12312
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <SCH>
A;Cross-references: EMBL:AF049860; NID:g4105738; PID:g4105741; PIDN:AAD02523.1
C;Genetics:
A;Genome: mitochondrion
A;Note: COI
C;Keywords: mitochondrion; oxidoreductase

  Query Match             47.2%;  Score 17;  DB 2;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.3e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 NRW 6


RESULT 31
T12329
cytochrome-c oxidase (EC 1.9.3.1) chain I - Stenocercus crasicaudatus mitochondrion (fra
C;Species: mitochondrion Stenocercus crasicaudatus
C;Date: 23-Jul-1999 #sequence_revision 23-Jul-1999 #text_change 22-Oct-1999
C;Accession: T12329
R;Schulte, J.A.; Macey, J.R.; Larson, A.; Papenfuss, T.J.
Mol. Phylogenet. Evol. 10, 367-376, 1998
A;Title: Molecular tests of phylogenetic taxonomies: A general procedure and example usi
A;Reference number: Z17488; MUID:99162288; PMID:10051389
A;Accession: T12329
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <SCH>
A;Cross-references: EMBL:AF049866; NID:g4105762; PID:g4105765; PIDN:AAD02541.1
C;Genetics:
A;Genome: mitochondrion
A;Note: COI
C;Keywords: mitochondrion; oxidoreductase

  Query Match             47.2%;  Score 17;  DB 2;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.3e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 NRW 6


RESULT 32
T12316
cytochrome-c oxidase (EC 1.9.3.1) chain I - Uma scoparia mitochondrion (fragment)
C;Species: mitochondrion Uma scoparia
C;Date: 23-Jul-1999 #sequence_revision 23-Jul-1999 #text_change 22-Oct-1999
C;Accession: T12316
R;Schulte, J.A.; Macey, J.R.; Larson, A.; Papenfuss, T.J.
Mol. Phylogenet. Evol. 10, 367-376, 1998
A;Title: Molecular tests of phylogenetic taxonomies: A general procedure and example usi
A;Reference number: Z17488; MUID:99162288; PMID:10051389
A;Accession: T12316
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <SCH>
A;Cross-references: EMBL:AF049861; NID:g4105742; PID:g4105745; PIDN:AAD02526.1
C;Genetics:
A;Genome: mitochondrion
A;Note: COI
C;Keywords: mitochondrion; oxidoreductase

  Query Match             47.2%;  Score 17;  DB 2;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.3e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 NRW 6


RESULT 33
T14212
cytochrome-c oxidase (EC 1.9.3.1) chain I - Uromastyx acanthinurus mitochondrion (fragmer
C;Species: mitochondrion Uromastyx acanthinurus
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 11-May-2000
C;Accession: T14212
R;Macey, J.R.; Larson, A.; Ananjeva, N.B.; Fang, Z.; Papenfuss, T.J.
Mol. Biol. Evol. 14, 91-104, 1997
A;Title: Two novel gene orders and the role of light-strand replication in rearrangement
A;Reference number: Z17789; MUID:97153826; PMID:9000757
A;Accession: T14212
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <MAC>
A;Cross-references: EMBL:U71325; NID:g1753264; PID:g1753267; PIDN:AAC62249.1
C;Genetics:
A;Genome: mitochondrion
A;Note: COI
C;Keywords: mitochondrion; oxidoreductase

  Query Match             47.2%;  Score 17;  DB 2;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.3e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 HRW 6


RESULT 34
T12321
```

```
cytochrome-c oxidase (EC 1.9.3.1) chain I - Uta stansburiana mitochondrion (fragment)
C;Species: mitochondrion Uta stansburiana
C;Date: 23-Jul-1999 #sequence_revision 23-Jul-1999 #text_change 22-Oct-1999
C;Accession: T12321
R;Schulte, J.A.; Macey, J.R.; Larson, A.; Papenfuss, T.J.
Mol. Phylogenet. Evol. 10, 367-376, 1998
A;Title: Molecular tests of phylogenetic taxonomies: A general procedure and example usi
A;Reference number: Z17488; MUID:99162288; PMID:10051389
A;Accession: T12321
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <SCH>
A;Cross-references: EMBL:AF049863; NID:g4105750; PID:g4105753; PIDN:AAD02532.1
C;Genetics:
A;Genome: mitochondrion
A;Note: COI
C;Keywords: mitochondrion; oxidoreductase

  Query Match             47.2%;  Score 17;  DB 2;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.3e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 NRW 6


RESULT 35
T14215
cytochrome-c oxidase (EC 1.9.3.1) chain I - Varanus griseu mitochondrion (fragment)
C;Species: mitochondrion Varanus griseu
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 11-May-2000
C;Accession: T14215
R;Macey, J.R.; Larson, A.; Ananjeva, N.B.; Fang, Z.; Papenfuss, T.J.
Mol. Biol. Evol. 14, 91-104, 1997
A;Title: Two novel gene orders and the role of light-strand replication in rearrangement
A;Reference number: Z17789; MUID:97153826; PMID:9000757
A;Accession: T14215
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <MAC>
A;Cross-references: EMBL:U71334; NID:g3688056; PID:g1753271; PIDN:AAD12669.1
C;Genetics:
A;Genome: mitochondrion
A;Note: COI
C;Keywords: mitochondrion; oxidoreductase

  Query Match             47.2%;  Score 17;  DB 2;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.3e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 TRW 6


RESULT 36
T14223
cytochrome-c oxidase (EC 1.9.3.1) chain I - Xantusia vigilis mitochondrion (fragment)
C;Species: mitochondrion Xantusia vigilis
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 11-May-2000
C;Accession: T14223
R;Macey, J.R.; Larson, A.; Ananjeva, N.B.; Fang, Z.; Papenfuss, T.J.
Mol. Biol. Evol. 14, 91-104, 1997
A;Title: Two novel gene orders and the role of light-strand replication in rearrangement
A;Reference number: Z17789; MUID:97153826; PMID:9000757
A;Accession: T14223
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <MAC>
A;Cross-references: EMBL:U71328; NID:g1753276; PID:g1753279; PIDN:AAB48291.1
C;Genetics:
A;Genome: mitochondrion
A;Note: COI
C;Keywords: mitochondrion; oxidoreductase

  Query Match             47.2%;  Score 17;  DB 2;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.3e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 TRW 6


RESULT 37
T14219
cytochrome-c oxidase (EC 1.9.3.1) chain I - Xenosaurus grandis mitochondrion (fragment)
C;Species: mitochondrion Xenosaurus grandis
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 21-Jul-2000
C;Accession: T14219
R;Macey, J.R.; Larson, A.; Ananjeva, N.B.; Fang, Z.; Papenfuss, T.J.
Mol. Biol. Evol. 14, 91-104, 1997
A;Title: Two novel gene orders and the role of light-strand replication in rearrangement
A;Reference number: Z17789; MUID:97153826; PMID:9000757
A;Accession: T14219
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-10 <MAC>
A;Cross-references: EMBL:U71333; NID:g5739536; PIDN:AAC62821.1; PID:g1753275
C;Genetics:
A;Genome: mitochondrion
A;Note: COI
C;Keywords: mitochondrion; oxidoreductase

  Query Match             47.2%;  Score 17;  DB 2;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.3e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 TRW 6


RESULT 38
PD0028
pev-kinin 2 - penaeid shrimp (Penaeus vannamei) (fragment)
C;Species: Penaeus vannamei
C;Date: 21-Aug-1998 #sequence_revision 21-Aug-1998 #text_change 19-May-2000
C;Accession: PD0028
R;Nieto, J.; Veelaert, D.; Derua, R.; Waelkens, E.; Cerstiaens, A.; Coast, G.; Devreese,
Biochem. Biophys. Res. Commun. 248, 406-411, 1998
A;Title: Identification of one tachykinin- and two kinin-related peptides in the brain o
A;Reference number: PD0027; MUID:98342103; PMID:9675150
A;Accession: PD0028
A;Molecule type: protein
A;Residues: 1-6 <NIE>
C;Comment: This peptide belongs to myotropic neuropeptides.

  Query Match             44.4%;  Score 16;  DB 2;  Length 6;
  Best Local Similarity   40.0%;  Pred. No. 2.8e+05;
  Matches    2;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              | : |
Db          1 DFSAW 5


RESULT 39
I79564
hypothetical TCL3 protein (mistranslated) - human (fragment)
C;Species: Homo sapiens (man)
C;Date: 28-Jan-2000 #sequence_revision 28-Jan-2000 #text_change 28-Jan-2000
C;Accession: I79564
R;Zutter, M.; Hockett, R.D.; Roberts, C.W.; McGuire, E.A.; Bloomstone, J.; Morton, C.C.;
Proc. Natl. Acad. Sci. U.S.A. 87, 3161-3165, 1990
```

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A;Title: The t(10;14)(q24;q11) of T-cell acute lymphoblastic leukemia juxtaposes the del
A;Reference number: I59162; MUID:90222189; PMID:2326274
A;Accession: I79564
A;Status: translation not shown; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-6 <ZUT>
A;Cross-references: GB:M33602; NID:g339907; PIDN:AAA66449.1; PID:g807656
C;Comment: This is the hypothetical translation of a sequence translated in an incorrect

  Query Match             44.4%;  Score 16;  DB 4;  Length 6;
  Best Local Similarity   100.0%;  Pred. No. 2.8e+05;
  Matches    2;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          4 RW 5
              ||
Db          1 RW 2


RESULT 40
S33244
neuromodulatory peptide WWamide-1 - giant African snail
C;Species: Achatina fulica (giant African snail)
C;Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 #text_change 24-Jul-1997
C;Accession: S33244
R;Minakata, H.; Ikeda, T.; Muneoka, Y.; Kobayashi, M.; Nomoto, K.
FEBS Lett. 323, 104-108, 1993
A;Title: WWamide-1, -2 and -3: novel neuromodulatory peptides isolated from ganglia of t
A;Reference number: S33244; MUID:93265912; PMID:8495720
A;Accession: S33244
A;Status: preliminary
A;Molecule type: protein
A;Residues: 1-7 <MIN>

  Query Match             44.4%;  Score 16;  DB 2;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 2.8e+05;
  Matches    2;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          5 WK 6
              ||
Db          1 WK 2


RESULT 41
S33246
neuromodulatory peptide WWamide-3 - giant African snail
C;Species: Achatina fulica (giant African snail)
C;Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 #text_change 24-Jul-1997
C;Accession: S33246
R;Minakata, H.; Ikeda, T.; Muneoka, Y.; Kobayashi, M.; Nomoto, K.
FEBS Lett. 323, 104-108, 1993
A;Title: WWamide-1, -2 and -3: novel neuromodulatory peptides isolated from ganglia of t
A;Reference number: S33244; MUID:93265912; PMID:8495720
A;Accession: S33246
A;Status: preliminary
A;Molecule type: protein
A;Residues: 1-7 <MIN>

  Query Match             44.4%;  Score 16;  DB 2;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 2.8e+05;
  Matches    2;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          5 WK 6
              ||
Db          1 WK 2


RESULT 42
JS0318
leucokinin VIII - Madeira cockroach
C;Species: Leucophaea maderae (Madeira cockroach)
C;Date: 07-Sep-1990 #sequence_revision 07-Sep-1990 #text_change 20-Jun-2000
C;Accession: JS0318
R;Holman, G.M.; Cook, B.J.; Nachman, R.J.
Comp. Biochem. Physiol. C 88, 31-34, 1987
A;Title: Isolation, primary structure and synthesis of leucokinins VII and VIII: the fin
A;Reference number: JS0317
A;Accession: JS0318
A;Molecule type: protein
A;Residues: 1-8 <HOL>
C;Comment: Leucokinins, a family of cephalomyotropic peptides, stimulate contractile act
C;Keywords: amidated carboxyl end; cephalomyotropic peptide
F;8/Modified site: amidated carboxyl end (Gly) #status experimental

  Query Match             44.4%;  Score 16;  DB 2;  Length 8;
  Best Local Similarity   40.0%;  Pred. No. 2.8e+05;
  Matches    2;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              | : |
Db          3 DFYSW 7


RESULT 43
A49187
gonadotropin-releasing hormone III - sea lamprey
C;Species: Petromyzon marinus (sea lamprey)
C;Date: 19-Dec-1993 #sequence_revision 18-Nov-1994 #text_change 03-Mar-1995
C;Accession: A49187
R;Sower, S.A.; Chiang, Y.C.; Lovas, S.; Conlon, J.M.
Endocrinology 132, 1125-1131, 1993
A;Title: Primary structure and biological activity of a third gonadotropin-releasing hor
A;Reference number: A49187; MUID:93178316; PMID:8440174
A;Accession: A49187
A;Status: preliminary
A;Molecule type: protein
A;Residues: 1-10 <SOW>
A;Experimental source: brain
A;Note: sequence extracted from NCBI backbone (NCBIP:126381)

  Query Match             44.4%;  Score 16;  DB 2;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 3.5e+03;
  Matches    2;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          5 WK 6
              ||
Db          7 WK 8


RESULT 44
PT0245
Ig heavy chain CRD3 region (clone 2-103C) - human (fragment)
C;Species: Homo sapiens (man)
C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 16-Aug-1996
C;Accession: PT0245
R;Yamada, M.; Wasserman, R.; Reichard, B.A.; Shane, S.; Caton, A.J.; Rovera, G.
J. Exp. Med. 173, 395-407, 1991
A;Title: Preferential utilization of specific immunoglobulin heavy chain diversity and jc
A;Reference number: PT0222; MUID:91108337; PMID:1899102
A;Accession: PT0245
A;Molecule type: DNA
A;Residues: 1-10 <YAM>
A;Experimental source: B lymphocyte
C;Keywords: heterotetramer; immunoglobulin

  Query Match             44.4%;  Score 16;  DB 2;  Length 10;
  Best Local Similarity   40.0%;  Pred. No. 3.5e+03;
  Matches    2;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              | : |
Db          6 DGYNW 10


RESULT 45
S71349
beta-crystallin B2 - rat (fragment)
```

C;Species: Rattus norvegicus (Norway rat)
C;Date: 29-Jan-1998 #sequence_revision 06-Feb-1998 #text_change 07-May-1999
C;Accession: S71349
R;Dirks, R.P.H.; Kraft, H.J.; van Genesen, S.T.; Klok, E.J.; Pfundt, R.; Schoenmakers, J
Eur. J. Biochem. 239, 23-32, 1996
A;Title: The cooperation between two silencers creates an enhancer element that controls
A;Reference number: S71349; MUID:96305362; PMID:8706714
A;Accession: S71349
A;Status: translation not shown
A;Molecule type: DNA
A;Residues: 1-6 <DIR>
A;Cross-references: EMBL:X83671
A;Experimental source: strain Wistar; lens epithelial cells
C;Genetics:
A;Gene: CRYBB2

Query Match 41.7%; Score 15; DB 2; Length 6;
Best Local Similarity 66.7%; Pred. No. 2.8e+05;
Matches 2; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 DHX 3
              ||:
Db          4 DHQ 6
```

Search completed: May 18, 2004, 15:56:53
Job time : 21 secs

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: May 18, 2004, 15:53:56 ; Search time 11 Seconds
(without alignments)
28.402 Million cell updates/sec

Title: CLAIM11
Perfect score: 36
Sequence: 1 DHXRWK 6

Scoring table: BLOSUM62DX
Gapop 10.0 , Gapext 0.5

Searched: 141681 seqs, 52070155 residues

Total number of hits satisfying chosen parameters: 371

Minimum DB seq length: 0
Maximum DB seq length: 10

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_42:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	22	61.1	8	1	ACI_THUAL	P18691 thunnus alb
2	18	50.0	8	1	CCKN_MACEU	P30369 macropus eu
3	18	50.0	10	1	CA12_LITCI	P82086 litoria cit
4	18	50.0	10	1	CAER_LITXA	P56264 litoria xan
5	17	47.2	5	1	UF01_MOUSE	P38639 mus musculu
6	17	47.2	10	1	GON1_PETMA	P04378 petromyzon
7	16	44.4	7	1	WWA2_ACHFU	P35920 achatina fu
8	16	44.4	7	1	WWA3_ACHFU	P35921 achatina fu
9	16	44.4	8	1	LCK8_LEUMA	P19990 leucophaea
10	16	44.4	9	1	COW_CONVE	P83047 conus ventr
11	16	44.4	10	1	GON3_PETMA	P30948 petromyzon
12	15	41.7	7	1	CHOX_ALCSP	P16101 alcaligenes
13	15	41.7	9	1	NSK1_SARBU	P41492 sarcophaga
14	15	41.7	10	1	AEGL_AGRAE	P83465 agrocybe ae
15	15	41.7	10	1	FARP_LOCMI	P38553 locusta mig
16	15	41.7	10	1	FARP_MYTED	P42560 mytilus edu
17	15	41.7	10	1	GLEM_HUMAN	P02728 homo sapien
18	15	41.7	10	1	LCMS_LEUMA	P21144 leucophaea
19	15	41.7	10	1	LSK2_LEUMA	P09039 leucophaea
20	14	38.9	5	1	BPP7_BOTIN	P30425 bothrops in
21	14	38.9	9	1	FIBB_PAPHA	P19343 papio hamad
22	14	38.9	9	1	NEF_HV1Z8	P12481 human immun
23	13	36.1	7	1	WWA1_ACHFU	P35919 achatina fu
24	13	36.1	8	1	PLP_BRANA	P81707 brassica na
25	13	36.1	9	1	LITO_LITAU	P08945 litoria aur
26	13	36.1	10	1	MP2_MICOC	P81533 microplitis
27	13	36.1	10	1	NO40_TOBAC	P55962 nicotiana t
28	12	33.3	8	1	FAR8_CALVO	P41863 calliphora
29	12	33.3	8	1	HTF1_PERAM	P04548 periplaneta
30	12	33.3	8	1	HTF2_PERAM	P04549 periplaneta
31	12	33.3	8	1	HTF_TENMO	P25419 tenebrio mo
32	12	33.3	9	1	FAR1_CALVO	P41856 calliphora
33	12	33.3	9	1	FAR2_CALVO	P41857 calliphora
34	12	33.3	9	1	FAR3_CALVO	P41858 calliphora
35	12	33.3	9	1	FAR4_CALVO	P41859 calliphora
36	12	33.3	9	1	FAR5_CALVO	P41860 calliphora
37	12	33.3	9	1	FAR6_CALVO	P41861 calliphora
38	12	33.3	9	1	FAR7_CALVO	P41862 calliphora
39	12	33.3	9	1	FARA_CALVO	P41865 calliphora
40	12	33.3	9	1	FRF1_SARBU	P83350 sarcophaga
41	12	33.3	9	1	LMIP_LOCMI	P31799 locusta mig
42	12	33.3	9	1	PTSP_BOMMO	P82003 bombyx mori
43	12	33.3	10	1	BPP2_BOTIN	P30422 bothrops in
44	12	33.3	10	1	BPP2_BOTJA	P01022 bothrops ja
45	12	33.3	10	1	BPP8_BOTIN	P30426 bothrops in

ALIGNMENTS

RESULT 1
ACI_THUAL
ID ACI_THUAL STANDARD; PRT; 8 AA.
AC P18691;
DT 01-NOV-1990 (Rel. 16, Created)
DT 01-NOV-1990 (Rel. 16, Last sequence update)
DT 01-NOV-1990 (Rel. 16, Last annotation update)
DE Angiotensin-converting enzyme inhibitor.
OS Thunnus albacares (Yellowfin tuna) (Neothunnus macropterus).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Scombroidei;
OC Scombridae; Thunnus.
OX NCBI_TaxID=8236;
RN [1]
RP SEQUENCE.
RC TISSUE=Muscle;
RX MEDLINE=88326322; PubMed=3415688;
RA Kohama Y., Matsumoto S., Oka H., Teramoto T., Okabe M., Mimura T.;
RT "Isolation of angiotensin-converting enzyme inhibitor from tuna
RT muscle.";
RL Biochem. Biophys. Res. Commun. 155:332-337(1988).
DR PIR; A31570; A31570.
SQ SEQUENCE 8 AA; 953 MW; 6AA863733051F1B7 CRC64;

Query Match 61.1%; Score 22; DB 1; Length 8;
Best Local Similarity 50.0%; Pred. No. 1.4e+05;
Matches 2; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

```
Qy          2 HXRW 5
              |::|
Db          3 HIKW 6
```

RESULT 2
CCKN_MACEU
ID CCKN_MACEU STANDARD; PRT; 8 AA.
AC P30369;
DT 01-APR-1993 (Rel. 25, Created)
DT 01-APR-1993 (Rel. 25, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Cholecystokinin (CCK).
GN CCK.
OS Macropus eugenii (Tammar wallaby), and
OS Dasyurus viverrinus (Southeastern quoll).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Metatheria; Diprotodontia; Macropodidae; Macropus.
OX NCBI_TaxID=9315, 9279;
RN [1]
RP SEQUENCE.
RC SPECIES=M.eugenii, and D.viverrinus;
RC TISSUE=Brain;
RX MEDLINE=88234141; PubMed=3375140;
RA Fan Z.W., Eng J., Shaw G., Yalow R.S.;
RT "Cholecystokinin octapeptide purified from brains of Australian
RT marsupials.";

```
RL   Peptides 9:429-431(1988).
CC   -!- FUNCTION: This peptide hormone induces gall bladder contraction
CC       and the release of pancreatic enzymes in the gut. Its function in
CC       the brain is not clear.
CC   -!- SIMILARITY: Belongs to the gastrin/cholecystokinin family.
DR   PIR; A43001; A43001.
DR   PIR; PQ0012; PQ0012.
DR   InterPro; IPR001651; Gastrin.
DR   PROSITE; PS00259; GASTRIN; 1.
KW   Amidation; Sulfation; Hormone.
FT   MOD_RES       2       2       SULFATION.
FT   MOD_RES       8       8       AMIDATION.
SQ   SEQUENCE   8 AA;  1064 MW;  DDCAA68378768B5A CRC64;

  Query Match             50.0%;  Score 18;  DB 1;  Length 8;
  Best Local Similarity   40.0%;  Pred. No. 1.4e+05;
  Matches    2;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              |:: |
Db          1 DYMGW 5


RESULT 3
CA12_LITCI
ID   CA12_LITCI     STANDARD;      PRT;    10 AA.
AC   P82086;
DT   16-OCT-2001 (Rel. 40, Created)
DT   16-OCT-2001 (Rel. 40, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Caerulein 1.2/1.2Y4.
OS   Litoria citropa (Australian blue mountains tree frog), and
OS   Litoria splendida (Magnificent tree frog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Amphibia; Batrachia; Anura; Neobatrachia; Hyloidea; Hylidae;
OC   Pelodryadinae; Litoria.
OX   NCBI_TaxID=94770, 30345;
RN   [1]
RP   SEQUENCE, AND MASS SPECTROMETRY (CAERULEINS 1.2 AND 1.2Y4).
RC   SPECIES=L.citropa; TISSUE=Skin secretion;
RX   MEDLINE=20057701; PubMed=10589099;
RA   Wabnitz P.A., Bowie J.H., Tyler M.J.;
RT   "Caerulein-like peptides from the skin glands of the Australian blue
RT   montains tree frog Litoria citropa. Part 1. Sequence determination
RT   using electrospray mass spectrometry.";
RL   Rapid Commun. Mass Spectrom. 13:2498-2502(1999).
RN   [2]
RP   SEQUENCE, AND MASS SPECTROMETRY (CAERULEIN 1.2).
RC   SPECIES=L.splendida; TISSUE=Skin secretion;
RX   MEDLINE=20069371; PubMed=10601876;
RA   Wabnitz P.A., Bowie J.H., Tyler M.J., Wallace J.C., Smith B.P.;
RT   "Differences in the skin peptides of the male and female Australian
RT   tree frog Litoria splendida. The discovery of the aquatic male sex
RT   pheromone splendipherin, together with Phe8 caerulein and the
RT   antibiotic peptide caerin 1.10.";
RL   Eur. J. Biochem. 267:269-275(2000).
CC   -!- FUNCTION: Hypotensive neuropeptide (Probable).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- TISSUE SPECIFICITY: Skin dorsal glands.
CC   -!- PTM: Isoform 1.2Y4 differs from isoform 1.2 in not being
CC       sulfated.
CC   -!- MASS SPECTROMETRY: MW=1366; METHOD=Electrospray.
CC   -!- SIMILARITY: Belongs to the gastrin/cholecystokinin family.
DR   InterPro; IPR001651; Gastrin.
DR   PROSITE; PS00259; GASTRIN; FALSE_NEG.
KW   Amphibian defense peptide; Hypotensive agent; Amidation; Sulfation;
KW   Pyrrolidone carboxylic acid.
FT   MOD_RES       1       1       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES       4       4       SULFATION.
FT   MOD_RES      10      10       AMIDATION.
SQ   SEQUENCE   10 AA;  1306 MW;  99DBFCD37861BB5A CRC64;

  Query Match             50.0%;  Score 18;  DB 1;  Length 10;
  Best Local Similarity   40.0%;  Pred. No. 7.8e+02;
  Matches    2;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              |:: |
Db          3 DYTGW 7


RESULT 4
CAER_LITXA
ID   CAER_LITXA     STANDARD;      PRT;    10 AA.
AC   P56264;
DT   15-JUL-1998 (Rel. 36, Created)
DT   15-JUL-1998 (Rel. 36, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Caerulein.
OS   Litoria xanthomera (Orange-thighed frog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Amphibia; Batrachia; Anura; Neobatrachia; Hyloidea; Hylidae;
OC   Pelodryadinae; Litoria.
OX   NCBI_TaxID=79697;
RN   [1]
RP   SEQUENCE, AND MASS SPECTROMETRY.
RC   TISSUE=Skin secretion;
RX   MEDLINE=97374000; PubMed=9230483;
RA   Steinborner S.T., Waugh R.J., Bowie J.H., Wallace J.C., Tyler M.J.,
RA   Ramsay S.L.;
RT   "New caerin antibacterial peptides from the skin glands of the
RT   Australian tree frog Litoria xanthomera.";
RL   J. Pept. Sci. 3:181-185(1997).
CC   -!- FUNCTION: Hypotensive neuropeptide.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- TISSUE SPECIFICITY: Skin dorsal glands.
CC   -!- MASS SPECTROMETRY: MW=1354; METHOD=FAB.
CC   -!- SIMILARITY: Belongs to the gastrin/cholecystokinin family.
DR   InterPro; IPR001651; Gastrin.
DR   PROSITE; PS00259; GASTRIN; 1.
KW   Amphibian defense peptide; Hypotensive agent; Amidation; Sulfation;
KW   Pyrrolidone carboxylic acid.
FT   MOD_RES       1       1       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES       4       4       SULFATION.
FT   MOD_RES      10      10       AMIDATION.
SQ   SEQUENCE   10 AA;  1290 MW;  99DBF3837861BB5A CRC64;

  Query Match             50.0%;  Score 18;  DB 1;  Length 10;
  Best Local Similarity   40.0%;  Pred. No. 7.8e+02;
  Matches    2;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              |:: |
Db          3 DYTGW 7


RESULT 5
UF01_MOUSE
ID   UF01_MOUSE     STANDARD;      PRT;     5 AA.
AC   P38639;
DT   01-OCT-1994 (Rel. 30, Created)
DT   01-OCT-1994 (Rel. 30, Last sequence update)
DT   15-MAR-2004 (Rel. 43, Last annotation update)
DE   Unknown protein from 2D-page of fibroblasts (P19) (Fragment).
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Fibroblast;
RX   MEDLINE=95009907; PubMed=7523108;
RA   Merrick B.A., Patterson R.M., Wichter L.L., He C., Selkirk J.K.;
RT   "Separation and sequencing of familiar and novel murine proteins
RT   using preparative two-dimensional gel electrophoresis.";
RL   Electrophoresis 15:735-745(1994).
```

```
CC   -!- MISCELLANEOUS: On the 2D-gel the determined pI of this unknown
CC       protein is: 6.6, its MW is: 19 kDa.
FT   NON_TER       5       5
SQ   SEQUENCE   5 AA;  717 MW;  7364087043100000 CRC64;

  Query Match             47.2%;  Score 17;  DB 1;  Length 5;
  Best Local Similarity   66.7%;  Pred. No. 1.4e+05;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          3 GRW 5


RESULT 6
GON1_PETMA
ID   GON1_PETMA     STANDARD;      PRT;    10 AA.
AC   P04378;
DT   20-MAR-1987 (Rel. 04, Created)
DT   20-MAR-1987 (Rel. 04, Last sequence update)
DT   28-FEB-2003 (Rel. 41, Last annotation update)
DE   Gonadoliberin I (Gonadotropin-releasing hormone I) (GnRH-I)
DE   (Luliberin I).
OS   Petromyzon marinus (Sea lamprey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Hyperoartia;
OC   Petromyzontiformes; Petromyzontidae; Petromyzon.
OX   NCBI_TaxID=7757;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Brain;
RX   MEDLINE=86168192; PubMed=3514603;
RA   Sherwood N.M., Sower S.A., Marshak D.R., Fraser B.A., Brownstein M.J.;
RT   "Primary structure of gonadotropin-releasing hormone from lamprey
RT   brain.";
RL   J. Biol. Chem. 261:4812-4819(1986).
CC   -!- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
CC       the secretion of both luteinizing and follicle-stimulating
CC       hormones.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the GnRH family.
DR   PIR; A01412; RHLMGS.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Hormone; Amidation; Hypothalamus; Pyrrolidone carboxylic acid.
FT   MOD_RES       1       1       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES      10      10       AMIDATION.
SQ   SEQUENCE   10 AA;  1244 MW;  1E4B36237B1735AB CRC64;

  Query Match             47.2%;  Score 17;  DB 1;  Length 10;
  Best Local Similarity   50.0%;  Pred. No. 1.2e+03;
  Matches    2;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          3 XRWK 6
              : ||
Db          5 LEWK 8


RESULT 7
WWA2_ACHFU
ID   WWA2_ACHFU     STANDARD;      PRT;     7 AA.
AC   P35920;
DT   01-JUN-1994 (Rel. 29, Created)
DT   01-JUN-1994 (Rel. 29, Last sequence update)
DT   01-OCT-1994 (Rel. 30, Last annotation update)
DE   WWamide-2.
OS   Achatina fulica (Giant African snail).
OC   Eukaryota; Metazoa; Mollusca; Gastropoda; Pulmonata; Stylommatophora;
OC   Sigmurethra; Achatinoidea; Achatinidae; Achatina.
OX   NCBI_TaxID=6530;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Ganglion;
RX   MEDLINE=93265912; PubMed=8495720;
RA   Minakata H., Ikeda T., Muneoka Y., Kobayashi M., Nomoto K.;
RT   "WWamide-1, -2 and -3: novel neuromodulatory peptides isolated from
RT   ganglia of the African giant snail, Achatina fulica.";
RL   FEBS Lett. 323:104-108(1993).
DR   PIR; S33246; S33246.
KW   Neuropeptide; Amidation.
FT   MOD_RES       7       7       AMIDATION.
SQ   SEQUENCE   7 AA;  964 MW;  7362D5B686D32310 CRC64;

  Query Match             44.4%;  Score 16;  DB 1;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+05;
  Matches    2;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          5 WK 6
              ||
Db          1 WK 2


RESULT 8
WWA3_ACHFU
ID   WWA3_ACHFU     STANDARD;      PRT;     7 AA.
AC   P35921;
DT   01-JUN-1994 (Rel. 29, Created)
DT   01-JUN-1994 (Rel. 29, Last sequence update)
DT   01-OCT-1994 (Rel. 30, Last annotation update)
DE   WWamide-3.
OS   Achatina fulica (Giant African snail).
OC   Eukaryota; Metazoa; Mollusca; Gastropoda; Pulmonata; Stylommatophora;
OC   Sigmurethra; Achatinoidea; Achatinidae; Achatina.
OX   NCBI_TaxID=6530;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Ganglion;
RX   MEDLINE=93265912; PubMed=8495720;
RA   Minakata H., Ikeda T., Muneoka Y., Kobayashi M., Nomoto K.;
RT   "WWamide-1, -2 and -3: novel neuromodulatory peptides isolated from
RT   ganglia of the African giant snail, Achatina fulica.";
RL   FEBS Lett. 323:104-108(1993).
DR   PIR; S33244; S33244.
KW   Neuropeptide; Amidation.
FT   MOD_RES       7       7       AMIDATION.
SQ   SEQUENCE   7 AA;  965 MW;  7362D5B69B132310 CRC64;

  Query Match             44.4%;  Score 16;  DB 1;  Length 7;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+05;
  Matches    2;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          5 WK 6
              ||
Db          1 WK 2


RESULT 9
LCK8_LEUMA
ID   LCK8_LEUMA     STANDARD;      PRT;     8 AA.
AC   P19990;
DT   01-FEB-1991 (Rel. 17, Created)
DT   01-FEB-1991 (Rel. 17, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Leucokinin VIII (L-VIII).
OS   Leucophaea maderae (Madeira cockroach).
OC   Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC   Neoptera; Orthopteroidea; Dictyoptera; Blattaria; Blaberoidea;
OC   Blaberidae; Leucophaea.
OX   NCBI_TaxID=6988;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Head;
RA   Holman G.M., Cook B.J., Nachman R.J.;
RT   "Isolation, primary structure and synthesis of leucokinins VII and
RT   VIII: the final members of this new family of cephalomyotropic
RT   peptides isolated from head extracts of Leucophaea maderae.";
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RL   Comp. Biochem. Physiol. 88C:31-34(1987).
CC   -!- FUNCTION: This cephalomyotropic peptide stimulates contractile
CC       activity of cockroach protodeum (hindgut).
CC   -!- SUBCELLULAR LOCATION: Secreted.
DR   PIR; JS0318; JS0318.
KW   Neuropeptide; Amidation.
FT   MOD_RES       8       8       AMIDATION.
SQ   SEQUENCE   8 AA;  902 MW;  736365AB59CAADD8 CRC64;

  Query Match             44.4%;  Score 16;  DB 1;  Length 8;
  Best Local Similarity   40.0%;  Pred. No. 1.4e+05;
  Matches    2;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              | : |
Db          3 DFYSW 7


RESULT 10
COW_CONVE
ID   COW_CONVE      STANDARD;      PRT;     9 AA.
AC   P83047;
DT   16-OCT-2001 (Rel. 40, Created)
DT   16-OCT-2001 (Rel. 40, Last sequence update)
DT   15-MAR-2004 (Rel. 43, Last annotation update)
DE   Contryphan-Vn.
OS   Conus ventricosus (Mediterranean cone).
OC   Eukaryota; Metazoa; Mollusca; Gastropoda; Orthogastropoda;
OC   Apogastropoda; Caenogastropoda; Sorbeoconcha; Hypsogastropoda;
OC   Neogastropoda; Conoidea; Conidae; Conus.
OX   NCBI_TaxID=117992;
RN   [1]
RP   SEQUENCE, SYNTHESIS, DISULFIDE BONDS, AND MASS SPECTROMETRY.
RC   TISSUE=Venom;
RX   MEDLINE=21547785; PubMed=11688995;
RA   Massilia G.R., Schinina M.E., Ascenzi P., Polticelli F.;
RT   "Contryphan-Vn: a novel peptide from the venom of the Mediterranean
RT   snail Conus ventricosus.";
RL   Biochem. Biophys. Res. Commun. 288:908-913(2001).
RN   [2]
RP   STRUCTURE BY NMR, SYNTHESIS, DISULFIDE BONDS, AND FUNCTION.
RX   MEDLINE=22533239; PubMed=12646193;
RA   Massilia G.R., Eliseo T., Grolleau F., Lapied B., Barbier J.,
RA   Bournaud R., Molgo J., Cicero D.O., Paci M., Schinina M.E.,
RA   Ascenzi P., Polticelli F.;
RT   "Contryphan-Vn: a modulator of Ca2+-dependent K+ channels.";
RL   Biochem. Biophys. Res. Commun. 303:238-246(2003).
CC   -!- FUNCTION: Affects both voltage-gated and calcium-dependent
CC       potassium channel activities, with composite and diversified
CC       effects in invertebrate and vertebrate systems.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- TISSUE SPECIFICITY: Expressed by the venom duct.
CC   -!- PTM: The cis isomer is the most abundant and is thus thought to be
CC       the functionally relevant conformer.
CC   -!- MASS SPECTROMETRY: MW=1088.6; METHOD=MALDI.
CC   -!- SIMILARITY: Belongs to the contryphan family.
DR   PDB; 1NXN; 04-MAR-03.
KW   Toxin; Ionic channel inhibitor; Neurotoxin;
KW   Potassium channel inhibitor; D-amino acid; Amidation; 3D-structure.
FT   DISULFID      3       9
FT   MOD_RES       5       5       D-TRYPTOPHAN.
FT   MOD_RES       9       9       AMIDATION.
SQ   SEQUENCE   9 AA;  1091 MW;  8D38676323676EBA CRC64;

  Query Match             44.4%;  Score 16;  DB 1;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+05;
  Matches    2;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          5 WK 6
              ||
Db          5 WK 6


RESULT 11
GON3_PETMA
ID   GON3_PETMA     STANDARD;      PRT;    10 AA.
AC   P30948;
DT   01-JUL-1993 (Rel. 26, Created)
DT   01-JUL-1993 (Rel. 26, Last sequence update)
DT   28-FEB-2003 (Rel. 41, Last annotation update)
DE   Gonadoliberin III (Gonadotropin-releasing hormone III) (GnRH-III)
DE   (Luliberin III).
OS   Petromyzon marinus (Sea lamprey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Hyperoartia;
OC   Petromyzontiformes; Petromyzontidae; Petromyzon.
OX   NCBI_TaxID=7757;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Brain;
RX   MEDLINE=93178316; PubMed=8440174;
RA   Sower S.A., Chiang Y.-C., Lovas S., Conlon J.M.;
RT   "Primary structure and biological activity of a third gonadotropin-
RT   releasing hormone from lamprey brain.";
RL   Endocrinology 132:1125-1131(1993).
CC   -!- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
CC       the secretion of both luteinizing and follicle-stimulating
CC       hormones.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the GnRH family.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Hormone; Amidation; Hypothalamus; Pyrrolidone carboxylic acid.
FT   MOD_RES       1       1       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES      10      10       AMIDATION.
SQ   SEQUENCE   10 AA;  1277 MW;  284B36237AA1F5A3 CRC64;

  Query Match             44.4%;  Score 16;  DB 1;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 1.8e+03;
  Matches    2;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          5 WK 6
              ||
Db          7 WK 8


RESULT 12
CHOX_ALCSP
ID   CHOX_ALCSP     STANDARD;      PRT;     7 AA.
AC   P16101;
DT   01-APR-1990 (Rel. 14, Created)
DT   01-APR-1990 (Rel. 14, Last sequence update)
DT   01-APR-1990 (Rel. 14, Last annotation update)
DE   Choline oxidase (EC 1.1.3.17) (Fragment).
OS   Alcaligenes sp.
OC   Bacteria; Proteobacteria; Betaproteobacteria; Burkholderiales;
OC   Alcaligenaceae; Alcaligenes.
OX   NCBI_TaxID=512;
RN   [1]
RP   SEQUENCE.
RX   MEDLINE=81006769; PubMed=6997283;
RA   Ohta-Fukuyama M., Miyake Y., Emi S., Yamano T.;
RT   "Identification and properties of the prosthetic group of choline
RT   oxidase from Alcaligenes sp.";
RL   J. Biochem. 88:197-203(1980).
CC   -!- CATALYTIC ACTIVITY: Choline + O(2) = betaine aldehyde + H(2)O(2).
DR   PIR; A15398; A15398.
KW   Oxidoreductase.
FT   NON_TER       7       7
SQ   SEQUENCE   7 AA;  839 MW;  7415B1E457644AC0 CRC64;

  Query Match             41.7%;  Score 15;  DB 1;  Length 7;
  Best Local Similarity   50.0%;  Pred. No. 1.4e+05;
  Matches    2;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXR 4
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              :|:|
Db          4 NHSR 7


RESULT 13
NSK1_SARBU
ID   NSK1_SARBU     STANDARD;      PRT;     9 AA.
AC   P41492;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   01-FEB-1996 (Rel. 33, Last annotation update)
DE   Neosulfakinin-I (NEB-SK-I).
OS   Sarcophaga bullata (Grey flesh fly) (Neobellieria bullata).
OC   Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC   Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha; Oestroidea;
OC   Sarcophagidae; Sarcophaga.
OX   NCBI_TaxID=7385;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Head;
RX   MEDLINE=93083101; PubMed=1360367;
RA   Fonagy A., Schoofs L., Proost P., van Damme J., de Loof A.;
RT   "Isolation and primary structure of two sulfakinin-like peptides from
RT   the fleshfly, Neobellieria bullata.";
RL   Comp. Biochem. Physiol. 103C:135-142(1992).
CC   -!- FUNCTION: Myotropic peptide.
CC   -!- SIMILARITY: Belongs to the gastrin/cholecystokinin family.
DR   InterPro; IPR001651; Gastrin.
DR   PROSITE; PS00259; GASTRIN; 1.
KW   Neuropeptide; Amidation; Sulfation.
FT   MOD_RES       4      4       SULFATION (POTENTIAL).
FT   MOD_RES       9      9       AMIDATION (POTENTIAL).
SQ   SEQUENCE   9 AA;  1187 MW;  8B0A0691E86B5AAA CRC64;

  Query Match             41.7%;  Score 15;  DB 1;  Length 9;
  Best Local Similarity   50.0%;  Pred. No. 1.4e+05;
  Matches    2;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 HXRW 5
              |:|:
Db          6 HMRF 9


RESULT 14
AEGL_AGRAE
ID   AEGL_AGRAE     STANDARD;      PRT;     10 AA.
AC   P83465;
DT   28-FEB-2003 (Rel. 41, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   28-FEB-2003 (Rel. 41, Last annotation update)
DE   Aegerolysin (Fragment).
OS   Agrocybe aegerita (Black poplar mushroom).
OC   Eukaryota; Fungi; Basidiomycota; Hymenomycetes; Homobasidiomycetes;
OC   Agaricales; Bolbitiaceae; Agrocybe.
OX   NCBI_TaxID=5400;
RN   [1]
RP   SEQUENCE, FUNCTION, AND SUBUNIT.
RC   STRAIN=PAP2 98; TISSUE=Fruiting body;
RX   MEDLINE=22015236; PubMed=12020804;
RA   Berne S., Krizaj I., Pohleven F., Turk T., Macek P., Sepcic K.;
RT   "Pleurotus and Agrocybe hemolysins, new proteins hypothetically
RT   involved in fungal fruiting.";
RL   Biochim. Biophys. Acta 1570:153-159(2002).
CC   -!- FUNCTION: Has hemolytic activity against bovine erythrocytes at
CC       nanomolar concentrations. May play an important role in the
CC       initial phase of fungal fruiting.
CC   -!- SUBUNIT: Monomer.
CC   -!- SIMILARITY: Belongs to the aegerolysin family.
KW   Hemolysis.
FT   DOMAIN        7     10       POLY-ILE.
FT   NON_TER      10     10
SQ   SEQUENCE   10 AA;  1189 MW;  DB7D555042D366DD CRC64;

  Query Match             41.7%;  Score 15;  DB 1;  Length 10;
  Best Local Similarity   25.0%;  Pred. No. 2.7e+03;
  Matches    1;  Conservative    3;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 HXRW 5
              :::|
Db          2 YAQW 5


RESULT 15
FARP_LOCMI
ID   FARP_LOCMI     STANDARD;      PRT;     10 AA.
AC   P38553;
DT   01-OCT-1994 (Rel. 30, Created)
DT   01-OCT-1994 (Rel. 30, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   SchistoFLRFamide (PDVDHFLRF-amide) (Cardioexcitatory neuropeptide).
OS   Locusta migratoria (Migratory locust), and
OS   Schistocerca gregaria (Desert locust).
OC   Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC   Neoptera; Orthopteroidea; Orthoptera; Caelifera; Acridomorpha;
OC   Acridoidea; Acrididae; Oedipodinae; Locusta.
OX   NCBI_TaxID=7004, 7010;
RN   [1]
RP   SEQUENCE.
RC   SPECIES=L.migratoria; TISSUE=Brain;
RX   MEDLINE=93324430; PubMed=7687352;
RA   Schoofs L., Holman G.M., Paemen L., Veelaert D., Amelinckx M.,
RA   de Loof A.;
RT   "Isolation, identification, and synthesis of PDVDHFLRFamide
RT   (SchistoFLRFamide) in Locusta migratoria and its association with the
RT   male accessory glands, the salivary glands, the heart, and the
RT   oviduct.";
RL   Peptides 14:409-421(1993).
RN   [2]
RP   SEQUENCE.
RC   SPECIES=S.gregaria; TISSUE=Thoracic nervous system;
RX   MEDLINE=89246543; PubMed=2719702;
RA   Robb S., Packman L.C., Evans P.D.;
RT   "Isolation, primary structure and bioactivity of schistoflrf-amide, a
RT   FMRF-amide-like neuropeptide from the locust, Schistocerca
RT   gregaria.";
RL   Biochem. Biophys. Res. Commun. 160:850-856(1989).
CC   -!- FUNCTION: Muscle inhibiting agent. Involved in the neural control
CC       of the visceral muscles of the heart, accessory glands and
CC       oviduct. May be involved in the regulation of saliva secretion.
CC   -!- TISSUE SPECIFICITY: Found in axons of the male accessory glands,
CC       the salivary glands, the heart, and the oviduct.
CC   -!- SIMILARITY: Belongs to the FARP (FMRFamide related peptide)
CC       family.
DR   PIR; A32543; A32543.
KW   Neuropeptide; Amidation.
FT   MOD_RES      10     10       AMIDATION.
SQ   SEQUENCE   10 AA;  1244 MW;  D3C51729D2C1EAB2 CRC64;

  Query Match             41.7%;  Score 15;  DB 1;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.7e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHX 3
              ||:
Db          4 DHV 6


RESULT 16
FARP_MYTED
ID   FARP_MYTED     STANDARD;      PRT;     10 AA.
AC   P42560;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   FMRFamide-like neuropeptide ALAGDHFFRF-amide.
OS   Mytilus edulis (Blue mussel).
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OC   Eukaryota; Metazoa; Mollusca; Bivalvia; Pteriomorphia; Mytiloida;
OC   Mytiloidea; Mytilidae; Mytilus.
OX   NCBI_TaxID=6550;
RN   [1]
RP   SEQUENCE.
RX   MEDLINE=93047883; PubMed=1358534;
RA   Walker R.J.;
RT   "Neuroactive peptides with an RFamide or Famide carboxyl terminal.";
RL   Comp. Biochem. Physiol. 102C:213-222(1992).
CC   -!- SIMILARITY: Belongs to the FARP (FMRFamide related peptide)
CC       family.
DR   PIR; A58365; A58365.
KW   Neuropeptide; Amidation.
FT   MOD_RES      10     10       AMIDATION.
SQ   SEQUENCE   10 AA;  1180 MW;  C2F80CC9C1EAA87D CRC64;

  Query Match             41.7%;  Score 15;  DB 1;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.7e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHX 3
              ||:
Db          5 DHF 7


RESULT 17
GLEM_HUMAN
ID   GLEM_HUMAN     STANDARD;      PRT;    10 AA.
AC   P02728;
DT   21-JUL-1986 (Rel. 01, Created)
DT   21-JUL-1986 (Rel. 01, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Erythrocyte membrane glycopeptide.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE.
RX   MEDLINE=72034940; PubMed=5286858;
RA   Weiss J.B., Lote C.J., Bobinski H.;
RT   "New low molecular weight glycopeptide containing triglucosylcysteine
RT   in human erythrocyte membrane.";
RL   Nature New Biol. 234:25-26(1971).
CC   -!- PTM: S-linked glycan consists of GlC-GlC-Glc trisaccharide.
CC   -!- MISCELLANEOUS: The identity of the glycoprotein from which this
CC       peptide is derived is unknown. No physiological function has been
CC       attributed.
DR   PIR; A03187; XGHUE.
KW   Glycoprotein; Erythrocyte.
FT   CARBOHYD      1      1       S-LINKED (GLC. . .).
SQ   SEQUENCE   10 AA;  1049 MW;  239BFEEAA1F5B1E8 CRC64;

  Query Match             41.7%;  Score 15;  DB 1;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.7e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHX 3
              ||:
Db          7 DHG 9


RESULT 18
LCMS_LEUMA
ID   LCMS_LEUMA     STANDARD;      PRT;    10 AA.
AC   P21144; P41497;
DT   01-MAY-1991 (Rel. 18, Created)
DT   01-FEB-1994 (Rel. 28, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Leucomyosuppressin (LMS) (LeM-MS).
OS   Leucophaea maderae (Madeira cockroach).
OC   Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC   Neoptera; Orthopteroidea; Dictyoptera; Blattaria; Blaberoidea;
OC   Blaberidae; Leucophaea.
OX   NCBI_TaxID=6988;
RN   [1]
RP   SEQUENCE, AND SYNTHESIS.
RC   TISSUE=Head;
RA   Holman G.M., Cook B.J., Nachman R.J.;
RT   "Isolation, primary structure and synthesis of leucomyosuppressin,
RT   an insect neuropeptide that inhibits spontaneous contractions of the
RT   cockroach hindgut.";
RL   Comp. Biochem. Physiol. 85C:329-333(1986).
CC   -!- FUNCTION: Inhibits the spontaneous contractions of cockroach
CC       protodeum (hindgut).
CC   -!- SUBCELLULAR LOCATION: Secreted.
KW   Neuropeptide; Amidation; Pyrrolidone carboxylic acid.
FT   MOD_RES       1      1       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES      10     10       AMIDATION.
SQ   SEQUENCE   10 AA;  1275 MW;  D3C45229D2C1EAB2 CRC64;

  Query Match             41.7%;  Score 15;  DB 1;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 2.7e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHX 3
              ||:
Db          4 DHV 6


RESULT 19
LSK2_LEUMA
ID   LSK2_LEUMA     STANDARD;      PRT;    10 AA.
AC   P09039;
DT   01-NOV-1988 (Rel. 09, Created)
DT   01-FEB-1994 (Rel. 28, Last sequence update)
DT   28-FEB-2003 (Rel. 41, Last annotation update)
DE   Leucosulfakinin-II (LSK-II).
OS   Leucophaea maderae (Madeira cockroach), and
OS   Periplaneta americana (American cockroach).
OC   Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC   Neoptera; Orthopteroidea; Dictyoptera; Blattaria; Blaberoidea;
OC   Blaberidae; Leucophaea.
OX   NCBI_TaxID=6988, 6978;
RN   [1]
RP   SEQUENCE.
RC   SPECIES=L.maderae;
RX   MEDLINE=87048769; PubMed=3778455;
RA   Nachman R.J., Holman G.M., Cook B.J., Haddon W.F., Ling N.;
RT   "Leucosulfakinin-II, a blocked sulfated insect neuropeptide with
RT   homology to cholecystokinin and gastrin.";
RL   Biochem. Biophys. Res. Commun. 140:357-364(1986).
RN   [2]
RP   SEQUENCE.
RC   SPECIES=P.americana; TISSUE=Corpora cardiaca;
RX   MEDLINE=90137190; PubMed=2615921;
RA   Veenstra J.A.;
RT   "Isolation and structure of two gastrin/CCK-like neuropeptides from
RT   the American cockroach homologous to the leucosulfakinins.";
RL   Neuropeptides 14:145-149(1989).
CC   -!- FUNCTION: CHANGE THE FREQUENCY AND AMPLITUDE OF CONTRACTIONS OF
CC       THE COCKROACH HINGUT. STIMULATES MUSCLE CONTRACTION OF HINDGUT.
CC   -!- SIMILARITY: Belongs to the gastrin/cholecystokinin family.
DR   PIR; A26335; GMROL2.
DR   PIR; B60656; B60656.
DR   InterPro; IPR001651; Gastrin.
DR   PROSITE; PS00259; GASTRIN; 1.
KW   Hormone; Amidation; Sulfation; Pyrrolidone carboxylic acid.
FT   MOD_RES       1      1       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES       5      5       SULFATION (IN L.MADERAE, BUT NOT IN
FT                                 P.AMERICANA).
FT   MOD_RES      10     10       AMIDATION.
SQ   SEQUENCE   10 AA;  1255 MW;  9B4F5391E86B5AAA CRC64;

  Query Match             41.7%;  Score 15;  DB 1;  Length 10;
  Best Local Similarity   50.0%;  Pred. No. 2.7e+03;
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  Matches    2;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 HXRW 5
              |:|:
Db          7 HMRF 10


RESULT 20
BPP7_BOTIN
ID   BPP7_BOTIN     STANDARD;      PRT;     5 AA.
AC   P30425;
DT   01-APR-1993 (Rel. 25, Created)
DT   01-FEB-1994 (Rel. 28, Last sequence update)
DT   28-FEB-2003 (Rel. 41, Last annotation update)
DE   Bradykinin-potentiating peptide S5,2 (5A) (Angiotensin-converting
DE   enzyme inhibitor).
OS   Bothrops insularis (Island jararaca) (Queimada jararaca).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidea;
OC   Viperidae; Crotalinae; Bothrops.
OX   NCBI_TaxID=8723;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Venom;
RX   MEDLINE=90351557; PubMed=2386615;
RA   Cintra A.C.O., Vieira C.A., Giglio J.R.;
RT   "Primary structure and biological activity of bradykinin potentiating
RT   peptides from Bothrops insularis snake venom.";
RL   J. Protein Chem. 9:221-227(1990).
CC   -!- FUNCTION: This peptide both inhibits the activity of the
CC       angiotensin-converting enzyme and enhances the action of
CC       bradykinin by inhibiting the kinases that inactivate it.
CC       It acts as an indirect hypotensive agent.
DR   PIR; G37196; G37196.
KW   Hypotensive agent; Pyrrolidone carboxylic acid.
FT   MOD_RES       1      1       PYRROLIDONE CARBOXYLIC ACID.
SQ   SEQUENCE   5 AA;  629 MW;  776DC37326B00000 CRC64;

  Query Match             38.9%;  Score 14;  DB 1;  Length 5;
  Best Local Similarity   33.3%;  Pred. No. 1.4e+05;
  Matches    1;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              ::|
Db          1 QKW 3


RESULT 21
FIBB_PAPHA
ID   FIBB_PAPHA     STANDARD;      PRT;     9 AA.
AC   P19343;
DT   01-NOV-1990 (Rel. 16, Created)
DT   01-NOV-1990 (Rel. 16, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Fibrinogen beta chain [Contains: Fibrinopeptide B] (Fragment).
GN   FGB.
OS   Papio hamadryas (Hamadryas baboon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
OC   Cercopithecinae; Papio.
OX   NCBI_TaxID=9557;
RN   [1]
RP   SEQUENCE.
RX   MEDLINE=84161822; PubMed=6423621;
RA   Nakamura S., Takenaka O., Takahashi K.;
RT   "Fibrinopeptides A and B of baboons (Papio anubis, Papio hamadryas,
RT   and Theropithecus gelada): their amino acid sequences and
RT   evolutionary rates and a molecular phylogeny for the baboons.";
RL   J. Biochem. 94:1973-1978(1983).
CC   -!- FUNCTION: Fibrinogen has a double function: yielding monomers that
CC       polymerize into fibrin and acting as a cofactor in platelet
CC       aggregation.
CC   -!- SUBUNIT: HEXAMER CONTAINING 2 SETS OF 3 NONIDENTICAL CHAINS
CC       (ALPHA, BETA AND GAMMA), LINKED TO EACH OTHER BY DISULFIDE BONDS.
CC   -!- PTM: Conversion of fibrinogen to fibrin is triggered by thrombin,
CC       which cleaves fibrinopeptides A and B from alpha and beta chains,
CC       and thus exposes the N-terminal polymerization sites responsible
CC       for the formation of the soft clot.
DR   PIR; E28854; E28854.
DR   InterPro; IPR002181; Fibrinogen_C.
DR   PROSITE; PS00514; FIBRIN_AG_C_DOMAIN; PARTIAL.
KW   Blood coagulation; Plasma.
FT   PEPTIDE       1      9       FIBRINOPEPTIDE B.
FT   NON_TER       9      9
SQ   SEQUENCE   9 AA;  1057 MW;  DDFE71E9C7287B06 CRC64;

  Query Match             38.9%;  Score 14;  DB 1;  Length 9;
  Best Local Similarity   66.7%;  Pred. No. 1.4e+05;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 HXR 4
              |:|
Db          7 HGR 9


RESULT 22
NEF_HV1Z8
ID   NEF_HV1Z8      STANDARD;      PRT;     9 AA.
AC   P12481;
DT   01-OCT-1989 (Rel. 12, Created)
DT   01-OCT-1989 (Rel. 12, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Negative factor (F-protein) (27 kDa protein) (3'ORF) (Fragment).
GN   NEF.
OS   Human immunodeficiency virus type 1 (Z-84 isolate) (HIV-1).
OC   Viruses; Retroid viruses; Retroviridae; Lentivirus.
OX   NCBI_TaxID=11681;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=88281278; PubMed=3395517;
RA   Yourno J., Josephs S.F., Reitz M.S. Jr., Zagury D., Wong-Staal F.,
RA   Gallo R.C.;
RT   "Nucleotide sequence analysis of the env gene of a new Zairian
RT   isolate of HIV-1.";
RL   AIDS Res. Hum. Retroviruses 4:165-173(1988).
CC   -!- FUNCTION: NEF has GTPase, GTP-binding and autophosphorylating
CC       activities. It seems to down-regulate the CD4(T4) antigen.
CC   -!- MISCELLANEOUS: THE Z-84 ISOLATE WAS TAKEN FROM A 54 YEAR-OLD
CC       ZAIREAN MALE.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; J03653; AAA44687.1; -.
DR   HIV; J03653; NEF$JY1.
KW   AIDS; Myristate; GTP-binding; Lipoprotein.
FT   LIPID         2      2       N-myristoyl glycine (in host) (By
FT                                 similarity).
FT   NON_TER       9      9
SQ   SEQUENCE   9 AA;  967 MW;  319CB325A3733878 CRC64;

  Query Match             38.9%;  Score 14;  DB 1;  Length 9;
  Best Local Similarity   33.3%;  Pred. No. 1.4e+05;
  Matches    1;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              ::|
Db          3 GKW 5


RESULT 23
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WWA1_ACHFU
ID   WWA1_ACHFU     STANDARD;      PRT;     7 AA.
AC   P35919;
DT   01-JUN-1994 (Rel. 29, Created)
DT   01-JUN-1994 (Rel. 29, Last sequence update)
DT   01-OCT-1994 (Rel. 30, Last annotation update)
DE   WWamide-1.
OS   Achatina fulica (Giant African snail).
OC   Eukaryota; Metazoa; Mollusca; Gastropoda; Pulmonata; Stylommatophora;
OC   Sigmurethra; Achatinoidea; Achatinidae; Achatina.
OX   NCBI_TaxID=6530;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Ganglion;
RX   MEDLINE=93265912; PubMed=8495720;
RA   Minakata H., Ikeda T., Muneoka Y., Kobayashi M., Nomoto K.;
RT   "WWamide-1, -2 and -3: novel neuromodulatory peptides isolated from
RT   ganglia of the African giant snail, Achatina fulica.";
RL   FEBS Lett. 323:104-108(1993).
CC   -!- FUNCTION: Exhibits modulatory effects on the peripheral nervous
CC       system. Inhibits activity on a central neuron.
DR   PIR; S33245; S33245.
KW   Neuropeptide; Amidation.
FT   MOD_RES       7       7       AMIDATION.
SQ   SEQUENCE   7 AA;  993 MW;  7362D5B69B041310 CRC64;

  Query Match             36.1%;  Score 13;  DB 1;  Length 7;
  Best Local Similarity   50.0%;  Pred. No. 1.4e+05;
  Matches    1;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          5 WK 6
              |:
Db          1 WR 2


RESULT 24
PLP_BRANA
ID   PLP_BRANA      STANDARD;      PRT;     8 AA.
AC   P81707;
DT   15-JUL-1999 (Rel. 38, Created)
DT   15-JUL-1999 (Rel. 38, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   Plastidial lipid-associated protein (Fragment).
OS   Brassica napus (Rape).
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids;
OC   eurosids II; Brassicales; Brassicaceae; Brassica.
OX   NCBI_TaxID=3708;
RN   [1]
RP   SEQUENCE.
RC   STRAIN=CV. TOPAZ; TISSUE=Tapetum;
RX   MEDLINE=99349136; PubMed=10420651;
RA   Hernandez-Pinzon I., Ross J.H.E., Barnes K.A., Damant A.P.,
RA   Murphy D.J.;
RT   "Composition and role of tapetal lipid bodies in the biogenesis of the
RT   pollen coat of Brassica napus.";
RL   Planta 208:588-598(1999).
CC   -!- FUNCTION: May play a structural role in the elaioplast, a tapetum-
CC       specific plastidial lipid organelle.
CC   -!- TISSUE SPECIFICITY: Tapetum of anthers.
FT   NON_TER       8       8
SQ   SEQUENCE   8 AA;  989 MW;  9D7B1AA452CAA042 CRC64;

  Query Match             36.1%;  Score 13;  DB 1;  Length 8;
  Best Local Similarity   25.0%;  Pred. No. 1.4e+05;
  Matches    1;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 HXRW 5
              :: |
Db          5 NDEW 8


RESULT 25
LITO_LITAU
ID   LITO_LITAU     STANDARD;      PRT;     9 AA.
AC   P08945;
DT   01-NOV-1988 (Rel. 09, Created)
DT   01-FEB-1994 (Rel. 28, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Litorin.
OS   Litoria aurea (Green and golden bell frog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Amphibia; Batrachia; Anura; Neobatrachia; Hyloidea; Hylidae;
OC   Pelodryadinae; Litoria.
OX   NCBI_TaxID=8371;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Skin secretion;
RX   MEDLINE=75187011; PubMed=1140241;
RA   Anastasi A., Erspamer V., Endean R.;
RT   "Aminoacid composition and sequence of litorin, a bombesin-like
RT   nonapeptide from the skin of the Australian leptodactylid frog
RT   Litoria aurea.";
RL   Experientia 31:510-511(1975).
RN   [2]
RP   SEQUENCE, AND METHYLATION OF GLN-2.
RC   TISSUE=Skin secretion;
RX   MEDLINE=78003546; PubMed=908397;
RA   Anastasi A., Montecucchi P.C., Angelucci F., Erspamer V., Endean R.;
RT   "Glu(OMe)3-litorin, the second bombesin-like peptide occurring in
RT   methanol extracts of the skin of the Australian frog Litoria aurea.";
RL   Experientia 33:1289-1289(1977).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- TISSUE SPECIFICITY: Skin.
CC   -!- SIMILARITY: Belongs to the bombesin/neuromedin B/ranatensin
CC       family.
DR   PIR; S07204; S07204.
DR   PIR; S07205; S07205.
DR   InterPro; IPR000874; Bombesin.
DR   Pfam; PF02044; Bombesin; 1.
DR   PROSITE; PS00257; BOMBESIN; 1.
KW   Amphibian defense peptide; Bombesin family; Amidation; Methylation;
KW   Pyrrolidone carboxylic acid.
FT   MOD_RES       1       1       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES       2       2       DEAMIDATION AND METHYLATION (PARTIAL).
FT   MOD_RES       9       9       AMIDATION.
SQ   SEQUENCE   9 AA;  1103 MW;  D7CCC1E862CDC366 CRC64;

  Query Match             36.1%;  Score 13;  DB 1;  Length 9;
  Best Local Similarity   33.3%;  Pred. No. 1.4e+05;
  Matches    1;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              ::|
Db          1 QQW 3


RESULT 26
MP2_MICOC
ID   MP2_MICOC      STANDARD;      PRT;    10 AA.
AC   P81533;
DT   15-JUL-1999 (Rel. 38, Created)
DT   15-JUL-1999 (Rel. 38, Last sequence update)
DT   15-JUL-1999 (Rel. 38, Last annotation update)
DE   MP2 protein (Fragment).
OS   Microplitis ocellatae (Braconid wasp).
OC   Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC   Neoptera; Endopterygota; Hymenoptera; Apocrita; Ichneumonoidea;
OC   Braconidae; Microgastrinae; Microplitis.
OX   NCBI_TaxID=99573;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Larva;
RA   Takahashi M., Quicke D.L.J.;
RL   Submitted (OCT-1998) to Swiss-Prot.
CC   -!- TISSUE SPECIFICITY: Salivary glands.
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CC   -!- DEVELOPMENTAL STAGE: LARVAL.
FT   NON_TER      10     10
SQ   SEQUENCE   10 AA;  1255 MW;  FE4FD93366C41AFA CRC64;

  Query Match             36.1%;  Score 13;  DB 1;  Length 10;
  Best Local Similarity   33.3%;  Pred. No. 6.2e+03;
  Matches    1;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              ::|
Db          5 RQW 7


RESULT 27
NO40_TOBAC
ID   NO40_TOBAC     STANDARD;      PRT;     10 AA.
AC   P55962;
DT   01-NOV-1997 (Rel. 35, Created)
DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   15-DEC-1998 (Rel. 37, Last annotation update)
DE   Early nodulin 40 homolog.
GN   ENOD40.
OS   Nicotiana tabacum (Common tobacco).
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; asterids;
OC   lamiids; Solanales; Solanaceae; Nicotiana.
OX   NCBI_TaxID=4097;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=cv. Petit Havana SR1;
RX   MEDLINE=96320417; PubMed=8662527;
RA   van de Sande K., Pawlowski K., Czaja I., Wieneke U., Schell J.,
RA   Schmidt J., Walden R., Matvienko M., Wellink J., van Kammen A.,
RA   Franssen H., Bisseling T.;
RT   "Modification of phytohormone response by a peptide encoded by ENOD40
RT   of legumes and a nonlegume.";
RL   Science 273:370-373(1996).
CC   -!- FUNCTION: Modulates the action of auxin, and may function as plant
CC       growth regulator that alters phytohormone responses.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X98716; CAA67267.1; -.
KW   Nodulation.
SQ   SEQUENCE   10 AA;  1173 MW;  2AB248E05DDB1AB3 CRC64;

  Query Match             36.1%;  Score 13;  DB 1;  Length 10;
  Best Local Similarity   33.3%;  Pred. No. 6.2e+03;
  Matches    1;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              ::|
Db          1 MQW 3


RESULT 28
FAR8_CALVO
ID   FAR8_CALVO     STANDARD;      PRT;      8 AA.
AC   P41863;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   01-NOV-1995 (Rel. 32, Last annotation update)
DE   CalliFMRFamide 8.
OS   Calliphora vomitoria (Blue blowfly).
OC   Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC   Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha; Oestroidea;
OC   Calliphoridae; Calliphora.
OX   NCBI_TaxID=27454;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Thoracic ganglion;
RX   MEDLINE=92196111; PubMed=1549595;
RA   Duve H., Johnsen A.H., Sewell J.C., Scott A.G., Orchard I.,
RA   Rehfeld J.F., Thorpe A.;
RT   "Isolation, structure, and activity of -Phe-Met-Arg-Phe-NH2
RT   neuropeptides (designated calliFMRFamides) from the blowfly
RT   Calliphora vomitoria.";
RL   Proc. Natl. Acad. Sci. U.S.A. 89:2326-2330(1992).
CC   -!- SIMILARITY: Belongs to the FARP (FMRFamide related peptide)
CC       family.
DR   PIR; H41978; H41978.
KW   Neuropeptide; Amidation.
FT   MOD_RES       8      8       AMIDATION.
SQ   SEQUENCE   8 AA;  957 MW;  72D40699CAA44DD8 CRC64;

  Query Match             33.3%;  Score 12;  DB 1;  Length 8;
  Best Local Similarity   40.0%;  Pred. No. 1.4e+05;
  Matches    2;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              | :|:
Db          4 DFMRF 8


RESULT 29
HTF1_PERAM
ID   HTF1_PERAM     STANDARD;      PRT;      8 AA.
AC   P04548;
DT   13-AUG-1987 (Rel. 05, Created)
DT   01-FEB-1994 (Rel. 28, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Hypertrehalosaemic factor I (Neuropeptide M-I) (Periplanetin CC-I)
DE   (PeA-CAH-I) (LeD-CC-I) (Hypertrehalosaemic neuropeptide I).
OS   Periplaneta americana (American cockroach),
OS   Leptinotarsa decemlineata (Colorado potato beetle), and
OS   Blatta orientalis (Oriental cockroach).
OC   Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC   Neoptera; Orthopteroidea; Dictyoptera; Blattaria; Blattoidea;
OC   Blattidae; Periplaneta.
OX   NCBI_TaxID=6978, 7539, 6976;
RN   [1]
RP   SEQUENCE.
RC   SPECIES=P.americana;
RX   MEDLINE=85046530; PubMed=6548628;
RA   Witten J.L., Schaffer M.H., O'Shea M., Cook J.C., Hemling M.E.,
RA   Rinehart K.L. Jr.;
RT   "Structures of two cockroach neuropeptides assigned by fast atom
RT   bombardment mass spectrometry.";
RL   Biochem. Biophys. Res. Commun. 124:350-358(1984).
RN   [2]
RP   SEQUENCE.
RC   SPECIES=P.americana;
RX   MEDLINE=84298179; PubMed=6591205;
RA   Scarborough R.M., Jamieson G.C., Kalish F., Kramer S.J., McEnroe G.A.,
RA   Miller C.A., Schooley D.A.;
RT   "Isolation and primary structure of two peptides with
RT   cardioacceleratory and hyperglycemic activity from the corpora
RT   cardiaca of Periplaneta americana.";
RL   Proc. Natl. Acad. Sci. U.S.A. 81:5575-5579(1984).
RN   [3]
RP   SEQUENCE.
RC   SPECIES=L.decemlineata; TISSUE=Corpora cardiaca;
RX   MEDLINE=90160053; PubMed=2576128;
RA   Gaede G., Kellner R.;
RT   "The metabolic neuropeptides of the corpus cardiacum from the potato
RT   beetle and the American cockroach are identical.";
RL   Peptides 10:1287-1289(1989).
RN   [4]
RP   SEQUENCE.
RC   SPECIES=B.orientalis; TISSUE=Corpora cardiaca;
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RX   MEDLINE=90253659; PubMed=2340112;
RA   Gaede G., Rinehart K.L. Jr.;
RT   "Primary structures of hypertrehalosaemic neuropeptides isolated from
RT   the corpora cardiaca of the cockroaches Leucophaea maderae,
RT   Gromphadorhina portentosa, Blattella germanica and Blatta orientalis
RT   and of the stick insect Extatosoma tiaratum assigned by tandem fast
RT   atom bombardment mass spectrometry.";
RL   Biol. Chem. Hoppe-Seyler 371:345-354(1990).
CC   -!- FUNCTION: Hypertrehalosaemic factors are neuropeptides that
CC       elevate the level of trehalose in the hemolymph (trehalose is
CC       the major carbohydrate in the hemolymph of insects).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the AKH / HRTH / RPCH family.
DR   PIR; A05169; A05169.
DR   PIR; A44960; A44960.
DR   PIR; A49823; A49823.
DR   PIR; S08995; S08995.
DR   InterPro; IPR002047; AKH.
DR   PROSITE; PS00256; AKH; 1.
KW   Neuropeptide; Amidation; Pyrrolidone carboxylic acid.
FT   MOD_RES       1      1       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES       8      8       AMIDATION.
SQ   SEQUENCE   8 AA;  991 MW;  86745775B9C452D6 CRC64;

  Query Match             33.3%;  Score 12;  DB 1;  Length 8;
  Best Local Similarity   33.3%;  Pred. No. 1.4e+05;
  Matches    1;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              : |
Db          6 PNW 8


RESULT 30
HTF2_PERAM
ID   HTF2_PERAM     STANDARD;      PRT;     8 AA.
AC   P04549;
DT   13-AUG-1987 (Rel. 05, Created)
DT   01-FEB-1994 (Rel. 28, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Hypertrehalosaemic factor II (Neuropeptide M-II) (Periplanetin CC-2)
DE   (PeA-CAH-II) (LeD-CC-II) (Hypertrehalosaemic neuropeptide II).
OS   Periplaneta americana (American cockroach),
OS   Leptinotarsa decemlineata (Colorado potato beetle), and
OS   Blatta orientalis (Oriental cockroach).
OC   Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC   Neoptera; Orthopteroidea; Dictyoptera; Blattaria; Blattoidea;
OC   Blattidae; Periplaneta.
OX   NCBI_TaxID=6978, 7539, 6976;
RN   [1]
RP   SEQUENCE.
RC   SPECIES=P.americana;
RX   MEDLINE=85046530; PubMed=6548628;
RA   Witten J.L., Schaffer M.H., O'Shea M., Cook J.C., Hemling M.E.,
RA   Rinehart K.L. Jr.;
RT   "Structures of two cockroach neuropeptides assigned by fast atom
RT   bombardment mass spectrometry.";
RL   Biochem. Biophys. Res. Commun. 124:350-358(1984).
RN   [2]
RP   SEQUENCE.
RC   SPECIES=P.americana;
RX   MEDLINE=84298179; PubMed=6591205;
RA   Scarborough R.M., Jamieson G.C., Kalish F., Kramer S.J., McEnroe G.A.,
RA   Miller C.A., Schooley D.A.;
RT   "Isolation and primary structure of two peptides with
RT   cardioacceleratory and hyperglycemic activity from the corpora
RT   cardiaca of Periplaneta americana.";
RL   Proc. Natl. Acad. Sci. U.S.A. 81:5575-5579(1984).
RN   [3]
RP   SEQUENCE.
RC   SPECIES=L.decemlineata; TISSUE=Corpora cardiaca;
RX   MEDLINE=90160053; PubMed=2576128;
RA   Gaede G., Kellner R.;
RT   "The metabolic neuropeptides of the corpus cardiacum from the potato
RT   beetle and the American cockroach are identical.";
RL   Peptides 10:1287-1289(1989).
RN   [4]
RP   SEQUENCE.
RC   SPECIES=B.orientalis; TISSUE=Corpora cardiaca;
RX   MEDLINE=90253659; PubMed=2340112;
RA   Gaede G., Rinehart K.L. Jr.;
RT   "Primary structures of hypertrehalosaemic neuropeptides isolated from
RT   the corpora cardiaca of the cockroaches Leucophaea maderae,
RT   Gromphadorhina portentosa, Blattella germanica and Blatta orientalis
RT   and of the stick insect Extatosoma tiaratum assigned by tandem fast
RT   atom bombardment mass spectrometry.";
RL   Biol. Chem. Hoppe-Seyler 371:345-354(1990).
CC   -!- FUNCTION: Hypertrehalosaemic factors are neuropeptides that
CC       elevate the level of trehalose in the hemolymph (trehalose is the
CC       major carbohydrate in the hemolymph of insects).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the AKH / HRTH / RPCH family.
DR   PIR; B44960; B44960.
DR   PIR; B49823; B49823.
DR   PIR; S08996; S08996.
DR   InterPro; IPR002047; AKH.
DR   PROSITE; PS00256; AKH; 1.
KW   Neuropeptide; Amidation; Pyrrolidone carboxylic acid.
FT   MOD_RES       1      1       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES       8      8       AMIDATION.
SQ   SEQUENCE   8 AA;  1006 MW;  86745771A9D1A736 CRC64;

  Query Match             33.3%;  Score 12;  DB 1;  Length 8;
  Best Local Similarity   33.3%;  Pred. No. 1.4e+05;
  Matches    1;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              : |
Db          6 PNW 8


RESULT 31
HTF_TENMO
ID   HTF_TENMO      STANDARD;      PRT;     8 AA.
AC   P25419;
DT   01-MAY-1992 (Rel. 22, Created)
DT   01-FEB-1994 (Rel. 28, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Hypertrehalosaemic factor (HOTH) (Hypertrehalosemic neuropeptide).
OS   Tenebrio molitor (Yellow mealworm), and
OS   Zophobas rugipes.
OC   Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC   Neoptera; Endopterygota; Coleoptera; Polyphaga; Cucujiformia;
OC   Tenebrionidae; Tenebrio.
OX   NCBI_TaxID=7067, 7075;
RN   [1]
RP   SEQUENCE.
RC   SPECIES=T.molitor, and Z.rugipes;
RC   TISSUE=Corpora cardiaca;
RX   MEDLINE=90341081; PubMed=2381871;
RA   Gaede G., Rosinski G.;
RT   "The primary structure of the hypertrehalosemic neuropeptide from
RT   tenebrionid beetles: a novel member of the AKH/RPCH family.";
RL   Peptides 11:455-459(1990).
CC   -!- FUNCTION: Hypertrehalosaemic factors are neuropeptides that
CC       elevate the level of trehalose in the hemolymph (trehalose is the
CC       major carbohydrate in the hemolymph of insects).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the AKH / HRTH / RPCH family.
DR   PIR; A43976; A43976.
DR   PIR; B43976; B43976.
DR   InterPro; IPR002047; AKH.
DR   PROSITE; PS00256; AKH; 1.
KW   Neuropeptide; Amidation; Pyrrolidone carboxylic acid.
FT   MOD_RES       1      1       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES       8      8       AMIDATION.
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SQ   SEQUENCE   8 AA;  1005 MW;  86745775B9C44736 CRC64;

  Query Match           33.3%;  Score 12;  DB 1;  Length 8;
  Best Local Similarity   33.3%;  Pred. No. 1.4e+05;
  Matches    1;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              : |
Db          6 PNW 8


RESULT 32
FAR1_CALVO
ID   FAR1_CALVO     STANDARD;      PRT;     9 AA.
AC   P41856;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   01-NOV-1995 (Rel. 32, Last annotation update)
DE   CalliFMRFamide 1.
OS   Calliphora vomitoria (Blue blowfly).
OC   Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC   Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha; Oestroidea;
OC   Calliphoridae; Calliphora.
OX   NCBI_TaxID=27454;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Thoracic ganglion;
RX   MEDLINE=92196111; PubMed=1549595;
RA   Duve H., Johnsen A.H., Sewell J.C., Scott A.G., Orchard I.,
RA   Rehfeld J.F., Thorpe A.;
RT   "Isolation, structure, and activity of -Phe-Met-Arg-Phe-NH2
RT   neuropeptides (designated calliFMRFamides) from the blowfly
RT   Calliphora vomitoria.";
RL   Proc. Natl. Acad. Sci. U.S.A. 89:2326-2330(1992).
CC   -!- FUNCTION: Able to induce fluid secretion from the isolated
CC       salivary gland of Calliphora.
CC   -!- SIMILARITY: Belongs to the FARP (FMRFamide related peptide)
CC       family.
DR   PIR; A41978; A41978.
KW   Neuropeptide; Amidation.
FT   MOD_RES       9      9       AMIDATION.
SQ   SEQUENCE   9 AA;  1169 MW;  29D00699CAB6C6C7 CRC64;

  Query Match           33.3%;  Score 12;  DB 1;  Length 9;
  Best Local Similarity   40.0%;  Pred. No. 1.4e+05;
  Matches    2;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              | :|:
Db          5 DFMRF 9


RESULT 33
FAR2_CALVO
ID   FAR2_CALVO     STANDARD;      PRT;     9 AA.
AC   P41857;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   01-NOV-1995 (Rel. 32, Last annotation update)
DE   CalliFMRFamide 2.
OS   Calliphora vomitoria (Blue blowfly).
OC   Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC   Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha; Oestroidea;
OC   Calliphoridae; Calliphora.
OX   NCBI_TaxID=27454;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Thoracic ganglion;
RX   MEDLINE=92196111; PubMed=1549595;
RA   Duve H., Johnsen A.H., Sewell J.C., Scott A.G., Orchard I.,
RA   Rehfeld J.F., Thorpe A.;
RT   "Isolation, structure, and activity of -Phe-Met-Arg-Phe-NH2
RT   neuropeptides (designated calliFMRFamides) from the blowfly
RT   Calliphora vomitoria.";
RL   Proc. Natl. Acad. Sci. U.S.A. 89:2326-2330(1992).
CC   -!- FUNCTION: Able to induce fluid secretion from the isolated
CC       salivary gland of Calliphora.
CC   -!- SIMILARITY: Belongs to the FARP (FMRFamide related peptide)
CC       family.
DR   PIR; B41978; B41978.
KW   Neuropeptide; Amidation.
FT   MOD_RES       9      9       AMIDATION.
SQ   SEQUENCE   9 AA;  1128 MW;  29D00699CAB6C5A7 CRC64;

  Query Match           33.3%;  Score 12;  DB 1;  Length 9;
  Best Local Similarity   40.0%;  Pred. No. 1.4e+05;
  Matches    2;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              | :|:
Db          5 DFMRF 9


RESULT 34
FAR3_CALVO
ID   FAR3_CALVO     STANDARD;      PRT;     9 AA.
AC   P41858;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   01-NOV-1995 (Rel. 32, Last annotation update)
DE   CalliFMRFamide 3.
OS   Calliphora vomitoria (Blue blowfly).
OC   Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC   Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha; Oestroidea;
OC   Calliphoridae; Calliphora.
OX   NCBI_TaxID=27454;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Thoracic ganglion;
RX   MEDLINE=92196111; PubMed=1549595;
RA   Duve H., Johnsen A.H., Sewell J.C., Scott A.G., Orchard I.,
RA   Rehfeld J.F., Thorpe A.;
RT   "Isolation, structure, and activity of -Phe-Met-Arg-Phe-NH2
RT   neuropeptides (designated calliFMRFamides) from the blowfly
RT   Calliphora vomitoria.";
RL   Proc. Natl. Acad. Sci. U.S.A. 89:2326-2330(1992).
CC   -!- FUNCTION: Able to induce fluid secretion from the isolated
CC       salivary gland of Calliphora.
CC   -!- SIMILARITY: Belongs to the FARP (FMRFamide related peptide)
CC       family.
DR   PIR; C41978; C41978.
KW   Neuropeptide; Amidation.
FT   MOD_RES       9      9       AMIDATION.
SQ   SEQUENCE   9 AA;  1114 MW;  2F0B0699CAB6C5A7 CRC64;

  Query Match           33.3%;  Score 12;  DB 1;  Length 9;
  Best Local Similarity   40.0%;  Pred. No. 1.4e+05;
  Matches    2;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              | :|:
Db          5 DFMRF 9


RESULT 35
FAR4_CALVO
ID   FAR4_CALVO     STANDARD;      PRT;     9 AA.
AC   P41859;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   01-NOV-1995 (Rel. 32, Last annotation update)
DE   CalliFMRFamide 4.
OS   Calliphora vomitoria (Blue blowfly).
OC   Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC   Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha; Oestroidea;
OC   Calliphoridae; Calliphora.
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OX   NCBI_TaxID=27454;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Thoracic ganglion;
RX   MEDLINE=92196111; PubMed=1549595;
RA   Duve H., Johnsen A.H., Sewell J.C., Scott A.G., Orchard I.,
RA   Rehfeld J.F., Thorpe A.;
RT   "Isolation, structure, and activity of -Phe-Met-Arg-Phe-NH2
RT   neuropeptides (designated calliFMRFamides) from the blowfly
RT   Calliphora vomitoria.";
RL   Proc. Natl. Acad. Sci. U.S.A. 89:2326-2330(1992).
CC   -!- SIMILARITY: Belongs to the FARP (FMRFamide related peptide)
CC       family.
DR   PIR; D41978; D41978.
KW   Neuropeptide; Amidation.
FT   MOD_RES       9      9       AMIDATION.
SQ   SEQUENCE   9 AA;  1182 MW;  31730699CAB6D457 CRC64;

  Query Match             33.3%;  Score 12;  DB 1;  Length 9;
  Best Local Similarity   40.0%;  Pred. No. 1.4e+05;
  Matches    2;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              | :|:
Db          5 DFMRF 9


RESULT 36
FAR5_CALVO
ID   FAR5_CALVO     STANDARD;      PRT;     9 AA.
AC   P41860;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   01-NOV-1995 (Rel. 32, Last annotation update)
DE   CalliFMRFamide 5.
OS   Calliphora vomitoria (Blue blowfly).
OC   Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC   Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha; Oestroidea;
OC   Calliphoridae; Calliphora.
OX   NCBI_TaxID=27454;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Thoracic ganglion;
RX   MEDLINE=92196111; PubMed=1549595;
RA   Duve H., Johnsen A.H., Sewell J.C., Scott A.G., Orchard I.,
RA   Rehfeld J.F., Thorpe A.;
RT   "Isolation, structure, and activity of -Phe-Met-Arg-Phe-NH2
RT   neuropeptides (designated calliFMRFamides) from the blowfly
RT   Calliphora vomitoria.";
RL   Proc. Natl. Acad. Sci. U.S.A. 89:2326-2330(1992).
CC   -!- SIMILARITY: Belongs to the FARP (FMRFamide related peptide)
CC       family.
DR   PIR; E41978; E41978.
KW   Neuropeptide; Amidation.
FT   MOD_RES       9      9       AMIDATION.
SQ   SEQUENCE   9 AA;  1068 MW;  39D10699CAB6D867 CRC64;

  Query Match             33.3%;  Score 12;  DB 1;  Length 9;
  Best Local Similarity   40.0%;  Pred. No. 1.4e+05;
  Matches    2;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              | :|:
Db          5 DFMRF 9


RESULT 37
FAR6_CALVO
ID   FAR6_CALVO     STANDARD;      PRT;     9 AA.
AC   P41861;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   01-NOV-1995 (Rel. 32, Last annotation update)
DE   CalliFMRFamide 6.
OS   Calliphora vomitoria (Blue blowfly).
OC   Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC   Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha; Oestroidea;
OC   Calliphoridae; Calliphora.
OX   NCBI_TaxID=27454;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Thoracic ganglion;
RX   MEDLINE=92196111; PubMed=1549595;
RA   Duve H., Johnsen A.H., Sewell J.C., Scott A.G., Orchard I.,
RA   Rehfeld J.F., Thorpe A.;
RT   "Isolation, structure, and activity of -Phe-Met-Arg-Phe-NH2
RT   neuropeptides (designated calliFMRFamides) from the blowfly
RT   Calliphora vomitoria.";
RL   Proc. Natl. Acad. Sci. U.S.A. 89:2326-2330(1992).
CC   -!- SIMILARITY: Belongs to the FARP (FMRFamide related peptide)
CC       family.
DR   PIR; F41978; F41978.
KW   Neuropeptide; Amidation.
FT   MOD_RES       9      9       AMIDATION.
SQ   SEQUENCE   9 AA;  1058 MW;  96D10699CAB6D865 CRC64;

  Query Match             33.3%;  Score 12;  DB 1;  Length 9;
  Best Local Similarity   40.0%;  Pred. No. 1.4e+05;
  Matches    2;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              | :|:
Db          5 DFMRF 9


RESULT 38
FAR7_CALVO
ID   FAR7_CALVO     STANDARD;      PRT;     9 AA.
AC   P41862;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   01-NOV-1995 (Rel. 32, Last annotation update)
DE   CalliFMRFamide 7.
OS   Calliphora vomitoria (Blue blowfly).
OC   Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC   Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha; Oestroidea;
OC   Calliphoridae; Calliphora.
OX   NCBI_TaxID=27454;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Thoracic ganglion;
RX   MEDLINE=92196111; PubMed=1549595;
RA   Duve H., Johnsen A.H., Sewell J.C., Scott A.G., Orchard I.,
RA   Rehfeld J.F., Thorpe A.;
RT   "Isolation, structure, and activity of -Phe-Met-Arg-Phe-NH2
RT   neuropeptides (designated calliFMRFamides) from the blowfly
RT   Calliphora vomitoria.";
RL   Proc. Natl. Acad. Sci. U.S.A. 89:2326-2330(1992).
CC   -!- SIMILARITY: Belongs to the FARP (FMRFamide related peptide)
CC       family.
DR   PIR; G41978; G41978.
KW   Neuropeptide; Amidation.
FT   MOD_RES       9      9       AMIDATION.
SQ   SEQUENCE   9 AA;  1081 MW;  E1D10699CAB6D86A CRC64;

  Query Match             33.3%;  Score 12;  DB 1;  Length 9;
  Best Local Similarity   40.0%;  Pred. No. 1.4e+05;
  Matches    2;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              | :|:
Db          5 DFMRF 9


RESULT 39
FARA_CALVO
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ID   FARA_CALVO     STANDARD;      PRT;     9 AA.
AC   P41865;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   01-NOV-1995 (Rel. 32, Last annotation update)
DE   CalliFMRFamide 10.
OS   Calliphora vomitoria (Blue blowfly).
OC   Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC   Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha; Oestroidea;
OC   Calliphoridae; Calliphora.
OX   NCBI_TaxID=27454;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Thoracic ganglion;
RX   MEDLINE=92196111; PubMed=1549595;
RA   Duve H., Johnsen A.H., Sewell J.C., Scott A.G., Orchard I.,
RA   Rehfeld J.F., Thorpe A.;
RT   "Isolation, structure, and activity of -Phe-Met-Arg-Phe-NH2
RT   neuropeptides (designated calliFMRFamides) from the blowfly
RT   Calliphora vomitoria.";
RL   Proc. Natl. Acad. Sci. U.S.A. 89:2326-2330(1992).
CC   -!- SIMILARITY: Belongs to the FARP (FMRFamide related peptide)
CC       family.
DR   PIR; A44787; A44787.
KW   Neuropeptide; Amidation.
FT   MOD_RES       9       9       AMIDATION.
FT   UNSURE        1       1       OR S OR A.
SQ   SEQUENCE   9 AA;  1183 MW;  29D00699CAB40457 CRC64;

  Query Match             33.3%;  Score 12;  DB 1;  Length 9;
  Best Local Similarity   40.0%;  Pred. No. 1.4e+05;
  Matches    2;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              | :|:
Db          5 DFMRF 9


RESULT 40
FRF1_SARBU
ID   FRF1_SARBU     STANDARD;      PRT;     9 AA.
AC   P83350;
DT   28-FEB-2003 (Rel. 41, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   28-FEB-2003 (Rel. 41, Last annotation update)
DE   Neb-FMRFamide 1.
OS   Sarcophaga bullata (Grey flesh fly) (Neobellieria bullata).
OC   Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC   Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha; Oestroidea;
OC   Sarcophagidae; Sarcophaga.
OX   NCBI_TaxID=7385;
RN   [1]
RP   SEQUENCE, AMIDATION, AND FUNCTION.
RC   TISSUE=CNS;
RX   MEDLINE=22342733; PubMed=12438685;
RA   Meeusen T., Mertens I., Clynen E., Baggerman G., Nichols R.,
RA   Nachman R.J., Huybrechts R., De Loof A., Schoofs L.;
RT   "Identification in Drosophila melanogaster of the invertebrate G
RT   protein-coupled FMRFamide receptor.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:15363-15368(2002).
CC   -!- FUNCTION: Has modulatory actions at skeletal neuromuscular
CC       junctions.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the FARP (FMRFamide related peptide)
CC       family.
KW   Neuropeptide; Amidation; Pyrrolidone carboxylic acid.
FT   MOD_RES       1       1       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES       9       9       AMIDATION.
SQ   SEQUENCE   9 AA;  1155 MW;  2D810699CAB6C5A7 CRC64;

  Query Match             33.3%;  Score 12;  DB 1;  Length 9;
  Best Local Similarity   40.0%;  Pred. No. 1.4e+05;
  Matches    2;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              | :|:
Db          5 DFMRF 9


RESULT 41
LMIP_LOCMI
ID   LMIP_LOCMI     STANDARD;      PRT;     9 AA.
AC   P31799;
DT   01-JUL-1993 (Rel. 26, Created)
DT   01-JUL-1993 (Rel. 26, Last sequence update)
DT   01-OCT-1993 (Rel. 27, Last annotation update)
DE   Locustamyoinhibiting peptide (LOM-MIP).
OS   Locusta migratoria (Migratory locust).
OC   Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC   Neoptera; Orthopteroidea; Orthoptera; Caelifera; Acridomorpha;
OC   Acridoidea; Acrididae; Oedipodinae; Locusta.
OX   NCBI_TaxID=7004;
RN   [1]
RP   SEQUENCE.
RX   MEDLINE=92179466; PubMed=1796179;
RA   Schoofs L., Holman G.M., Hayes T.K., Nachman R.J., de Loof A.;
RT   "Isolation, identification and synthesis of locustamyoinhibiting
RT   peptide (LOM-MIP), a novel biologically active neuropeptide from
RT   Locusta migratoria.";
RL   Regul. Pept. 36:111-119(1991).
CC   -!- FUNCTION: Suppresses spontaneous contractions of the hindgut and
CC       oviduct.
CC   -!- TISSUE SPECIFICITY: Neurons located in two ventral cell clusters
CC       in the suboesophageal ganglion.
DR   PIR; A60065; AKLQIM.
KW   Amidation; Neuropeptide.
FT   MOD_RES       9       9       AMIDATION.
SQ   SEQUENCE   9 AA;  1060 MW;  387D7DD4472AB6C3 CRC64;

  Query Match             33.3%;  Score 12;  DB 1;  Length 9;
  Best Local Similarity   50.0%;  Pred. No. 1.4e+05;
  Matches    1;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          5 WK 6
              |:
Db          2 WQ 3


RESULT 42
PTSP_BOMMO
ID   PTSP_BOMMO     STANDARD;      PRT;     9 AA.
AC   P82003;
DT   16-OCT-2001 (Rel. 40, Created)
DT   16-OCT-2001 (Rel. 40, Last sequence update)
DT   28-FEB-2003 (Rel. 41, Last annotation update)
DE   Prothoracicostatic peptide (Bom-PTSP).
OS   Bombyx mori (Silk moth).
OC   Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC   Neoptera; Endopterygota; Lepidoptera; Glossata; Ditrysia; Bombycoidea;
OC   Bombycidae; Bombyx.
OX   NCBI_TaxID=7091;
RN   [1]
RP   SEQUENCE.
RC   STRAIN=C145 X N140; TISSUE=Brain;
RX   MEDLINE=20002634; PubMed=10531308;
RA   Hua Y.-J., Tanaka Y., Nakamura K., Sakakibara M., Nagata S.,
RA   Kataoka H.;
RT   "Identification of a prothoracicostatic peptide in the larval brain of
RT   the silkworm, Bombyx mori.";
RL   J. Biol. Chem. 274:31169-31173(1999).
RN   [2]
RP   ERRATUM.
RA   Hua Y.-J., Tanaka Y., Nakamura K., Sakakibara M., Nagata S.,
RA   Kataoka H.;
RL   J. Biol. Chem. 275:9892-9892(2000).
CC   -!- FUNCTION: Inhibits ecdysteroid biosynthesis in the prothoracic
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CC       gland.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- DEVELOPMENTAL STAGE: Early fifth instar.
KW   Hormone; Amidation.
FT   MOD_RES       9       9       AMIDATION.
SQ   SEQUENCE   9 AA;  1090 MW;  3878C5B4472AB6C3 CRC64;

  Query Match             33.3%;  Score 12;  DB 1;  Length 9;
  Best Local Similarity   25.0%;  Pred. No. 1.4e+05;
  Matches    1;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 HXRW 5
              :: |
Db          6 NSAW 9


RESULT 43
BPP2_BOTIN
ID   BPP2_BOTIN     STANDARD;      PRT;    10 AA.
AC   P30422;
DT   01-APR-1993 (Rel. 25, Created)
DT   01-FEB-1994 (Rel. 28, Last sequence update)
DT   28-FEB-2003 (Rel. 41, Last annotation update)
DE   Bradykinin-potentiating peptide S4,3,1 (10C) (Angiotensin-converting
DE   enzyme inhibitor).
OS   Bothrops insularis (Island jararaca) (Queimada jararaca).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidea;
OC   Viperidae; Crotalinae; Bothrops.
OX   NCBI_TaxID=8723;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Venom;
RX   MEDLINE=90351557; PubMed=2386615;
RA   Cintra A.C.O., Vieira C.A., Giglio J.R.;
RT   "Primary structure and biological activity of bradykinin potentiating
RT   peptides from Bothrops insularis snake venom.";
RL   J. Protein Chem. 9:221-227(1990).
CC   -!- FUNCTION: This peptide both inhibits the activity of the
CC       angiotensin-converting enzyme and enhances the action of
CC       bradykinin by inhibiting the kinases that inactivate it.
CC       It acts as an indirect hypotensive agent.
DR   PIR; B37196; B37196.
KW   Hypotensive agent; Pyrrolidone carboxylic acid.
FT   MOD_RES       1       1       PYRROLIDONE CARBOXYLIC ACID.
SQ   SEQUENCE   10 AA;  1213 MW;  30C53546C761F773 CRC64;

  Query Match             33.3%;  Score 12;  DB 1;  Length 10;
  Best Local Similarity   33.3%;  Pred. No. 9.3e+03;
  Matches    1;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              : |
Db          1 QNW 3


RESULT 44
BPP2_BOTJA
ID   BPP2_BOTJA     STANDARD;      PRT;    10 AA.
AC   P01022;
DT   21-JUL-1986 (Rel. 01, Created)
DT   01-FEB-1994 (Rel. 28, Last sequence update)
DT   28-FEB-2003 (Rel. 41, Last annotation update)
DE   Bradykinin-potentiating peptide 10B (Angiotensin-converting enzyme
DE   inhibitor V-6-II).
OS   Bothrops jararaca (Jararaca).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidea;
OC   Viperidae; Crotalinae; Bothrops.
OX   NCBI_TaxID=8724;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Venom;
RX   MEDLINE=72118526; PubMed=4334402;
RA   Ondetti M.A., Williams N.J., Sabo E.F., Pluscec J., Weaver E.R.,
RA   Kocy O.;
RT   "Angiotensin-converting enzyme inhibitors from the venom of Bothrops
RT   jararaca. Isolation, elucidation of structure, and synthesis.";
RL   Biochemistry 10:4033-4039(1971).
CC   -!- FUNCTION: This peptide both inhibits the activity of the
CC       angiotensin-converting enzyme and enhances the action of
CC       bradykinin by inhibiting the kinases that inactivate it.
CC       It acts as an indirect hypotensive agent.
DR   PIR; A01255; XAVI6B.
KW   Hypotensive agent; Pyrrolidone carboxylic acid.
FT   MOD_RES       1       1       PYRROLIDONE CARBOXYLIC ACID.
SQ   SEQUENCE   10 AA;  1232 MW;  30C53546C7741773 CRC64;

  Query Match             33.3%;  Score 12;  DB 1;  Length 10;
  Best Local Similarity   33.3%;  Pred. No. 9.3e+03;
  Matches    1;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              : |
Db          1 QNW 3


RESULT 45
BPP8_BOTIN
ID   BPP8_BOTIN     STANDARD;      PRT;    10 AA.
AC   P30426;
DT   01-APR-1993 (Rel. 25, Created)
DT   01-FEB-1994 (Rel. 28, Last sequence update)
DT   28-FEB-2003 (Rel. 41, Last annotation update)
DE   Bradykinin-potentiating peptide S5,1 (Angiotensin-converting
DE   enzyme inhibitor).
OS   Bothrops insularis (Island jararaca) (Queimada jararaca).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidea;
OC   Viperidae; Crotalinae; Bothrops.
OX   NCBI_TaxID=8723;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Venom;
RX   MEDLINE=90351557; PubMed=2386615;
RA   Cintra A.C.O., Vieira C.A., Giglio J.R.;
RT   "Primary structure and biological activity of bradykinin potentiating
RT   peptides from Bothrops insularis snake venom.";
RL   J. Protein Chem. 9:221-227(1990).
CC   -!- FUNCTION: This peptide both inhibits the activity of the
CC       angiotensin-converting enzyme and enhances the action of
CC       bradykinin by inhibiting the kinases that inactivate it.
CC       It acts as an indirect hypotensive agent.
DR   PIR; H37196; H37196.
KW   Hypotensive agent; Pyrrolidone carboxylic acid.
FT   MOD_RES       1       1       PYRROLIDONE CARBOXYLIC ACID.
SQ   SEQUENCE   10 AA;  1173 MW;  2FF835545761F6D8 CRC64;

  Query Match             33.3%;  Score 12;  DB 1;  Length 10;
  Best Local Similarity   50.0%;  Pred. No. 9.3e+03;
  Matches    1;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          4 RW 5
              :|
Db          1 QW 2


Search completed: May 18, 2004, 15:57:17
Job time : 12 secs
```

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: May 18, 2004, 15:49:51 ; Search time 39 Seconds
(without alignments)
48.541 Million cell updates/sec

Title: CLAIM11
Perfect score: 36
Sequence: 1 DHXRWK 6

Scoring table: BLOSUM62DX
Gapop 10.0 , Gapext 0.5

Searched: 1017041 seqs, 315518202 residues

Total number of hits satisfying chosen parameters: 1443

Minimum DB seq length: 0
Maximum DB seq length: 10

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SPTREMBL_25:*
1: sp_archea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_rvirus:*
16: sp_bacteriap:*
17: sp_archeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	23	63.9	10	13	O42355	O42355 brachydanio
2	20	55.6	10	11	Q9QVE8	Q9qve8 mus sp. pro
3	19	52.8	10	8	Q94VD2	Q94vd2 varanus pan
4	18	50.0	8	8	Q94V82	Q94v82 varanus yuw
5	18	50.0	8	8	Q9TD02	Q9td02 terranatos
6	18	50.0	9	2	Q47410	Q47410 escherichia
7	18	50.0	9	4	Q9UMA0	Q9uma0 homo sapien
8	18	50.0	10	10	Q8GZC8	Q8gzc8 hordeum vul
9	17	47.2	8	8	Q94VC1	Q94vc1 varanus rud
10	17	47.2	8	8	Q94VF6	Q94vf6 varanus job
11	17	47.2	8	8	Q8WGD7	Q8wgd7 lomis hirta
12	17	47.2	8	8	Q94V88	Q94v88 varanus tri
13	17	47.2	8	8	Q9T4Y2	Q9t4y2 asterina pe
14	17	47.2	8	8	Q94VJ4	Q94vj4 varanus ben
15	17	47.2	8	8	Q94V91	Q94v91 varanus tim
16	17	47.2	8	8	Q94VE4	Q94ve4 varanus mel
17	17	47.2	8	8	Q94VB2	Q94vb2 varanus sal
18	17	47.2	8	8	Q94VF9	Q94vf9 varanus ind
19	17	47.2	8	8	Q94VA7	Q94va7 varanus sal
20	17	47.2	8	8	Q94VB5	Q94vb5 varanus sal
21	17	47.2	8	11	Q62721	Q62721 rattus norv
22	17	47.2	9	8	Q9T688	Q9t688 gecko gecko
23	17	47.2	9	8	Q94VH4	Q94vh4 varanus gla
24	17	47.2	9	8	Q94VD8	Q94vd8 varanus nil
25	17	47.2	9	8	Q8SHF0	Q8shf0 chamaeleo n
26	17	47.2	9	8	Q94VI8	Q94vi8 varanus ere
27	17	47.2	9	8	Q94VI0	Q94vi0 varanus gig
28	17	47.2	9	8	Q94VJ1	Q94vj1 varanus dor
29	17	47.2	9	8	Q94VG2	Q94vg2 varanus ind
30	17	47.2	9	8	Q94VC6	Q94vc6 varanus pil
31	17	47.2	9	8	Q8WGE6	Q8wge6 procambarus
32	17	47.2	9	8	Q94VE1	Q94ve1 varanus mer
33	17	47.2	9	9	Q38366	Q38366 bacteriopha
34	17	47.2	9	13	Q801K2	Q801k2 antilophia
35	17	47.2	9	13	Q801K1	Q801k1 chiroxiphia
36	17	47.2	9	13	Q801K0	Q801k0 ilicura mil
37	17	47.2	10	8	Q9T8P3	Q9t8p3 liolaemus a
38	17	47.2	10	8	Q9B4W1	Q9b4w1 triturus vu
39	17	47.2	10	8	Q8SHB1	Q8shb1 rhampholeon
40	17	47.2	10	8	Q9T8K7	Q9t8k7 liolaemus m
41	17	47.2	10	8	Q9T8N1	Q9t8n1 liolaemus p
42	17	47.2	10	8	O79903	O79903 oplurus cuv
43	17	47.2	10	8	Q8WDH0	Q8wdh0 anolis limi
44	17	47.2	10	8	Q8W969	Q8w969 anolis orto
45	17	47.2	10	8	Q8SHC6	Q8shc6 furcifer be

ALIGNMENTS

RESULT 1
O42355
ID O42355 PRELIMINARY; PRT; 10 AA.
AC O42355;
DT 01-JAN-1998 (TrEMBLrel. 05, Created)
DT 01-JAN-1998 (TrEMBLrel. 05, Last sequence update)
DT 01-OCT-2002 (TrEMBLrel. 22, Last annotation update)
DE GATA-2 (Fragment).
GN GATA2.
OS Brachydanio rerio (Zebrafish) (Danio rerio).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC Cyprinidae; Danio.
OX NCBI_TaxID=7955;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=97322361; PubMed=9177206;
RA Meng A., Tang H., Ong B.A., Farrell M.J., Lin S.;
RT "Promoter analysis in living embryos identifies a cis-acting motif
RT required for neuronal expression of GATA-2.";
RL Proc. Natl. Acad. Sci. U.S.A. 94:6267-6272(1997).
DR EMBL; AF001220; AAB61711.1; -.
DR ZFIN; ZDB-GENE-980526-260; gata2.
FT NON_TER 10 10
SQ SEQUENCE 10 AA; 1192 MW; C82A2CA6DAADDDC2 CRC64;

Query Match 63.9%; Score 23; DB 13; Length 10;
Best Local Similarity 60.0%; Pred. No. 6.2e+02;
Matches 3; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

```
Qy          1 DHXRW 5
              | :||
Db          6 DQSRW 10
```

RESULT 2
Q9QVE8
ID Q9QVE8 PRELIMINARY; PRT; 10 AA.
AC Q9QVE8;

```
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
DE   Protamine MP2 intermediate protein PMP2/16 (Fragment).
OS   Mus sp.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10095;
RN   [1]
RP   SEQUENCE.
RX   MEDLINE=92174934; PubMed=1541289;
RA   Chauviere M., Martinage A., Debarle M., Sautiere P., Chevaillier P.;
RT   "Molecular characterization of six intermediate proteins in the
RT   processing of mouse protamine P2 precursor.";
RL   Eur. J. Biochem. 204:759-765(1992).
FT   NON_TER       1      1
FT   NON_TER      10     10
SQ   SEQUENCE   10 AA;  1224 MW;  D4050B040B11EAB6 CRC64;

  Query Match             55.6%;  Score 20;  DB 11;  Length 10;
  Best Local Similarity   75.0%;  Pred. No. 2.2e+03;
  Matches    3;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXR 4
              ||:|
Db          4 DHER 7


RESULT 3
Q94VD2
ID   Q94VD2      PRELIMINARY;      PRT;    10 AA.
AC   Q94VD2;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Varanus panoptes panoptes.
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Varanidae; Varanus.
OX   NCBI_TaxID=169849;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Ast J.C.;
RT   "Mitochondrial DNA evidence and evolution in Varanoidea (Squamata).";
RL   Cladistics 17:0-0(2001).
DR   EMBL; AF407516; AAL10102.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER      10     10
SQ   SEQUENCE   10 AA;  1299 MW;  5DEE80D4136411A7 CRC64;

  Query Match             52.8%;  Score 19;  DB 8;  Length 10;
  Best Local Similarity   50.0%;  Pred. No. 3.4e+03;
  Matches    2;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRWK 6
              :||:
Db          4 TRWR 7


RESULT 4
Q94V82
ID   Q94V82      PRELIMINARY;      PRT;     8 AA.
AC   Q94V82;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Varanus yuwonoi.
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Varanidae; Varanus.
OX   NCBI_TaxID=169856;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Ast J.C.;
RT   "Mitochondrial DNA evidence and evolution in Varanoidea (Squamata).";
RL   Cladistics 17:0-0(2001).
DR   EMBL; AF407535; AAL10157.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       8      8
SQ   SEQUENCE   8 AA;  1045 MW;  EFC775A6C3640056 CRC64;

  Query Match             50.0%;  Score 18;  DB 8;  Length 8;
  Best Local Similarity   50.0%;  Pred. No. 1e+06;
  Matches    2;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRWK 6
              :||:
Db          2 IRWQ 5


RESULT 5
Q9TD02
ID   Q9TD02      PRELIMINARY;      PRT;     8 AA.
AC   Q9TD02;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
OS   Terranatos dolichopterus.
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Atherinomorpha;
OC   Cyprinodontiformes; Aplocheilidae; Rivulinae; Terranatos.
OX   NCBI_TaxID=61836;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Hrbek T., Larson A.;
RT   "The evolution of diapause in the killifish family Rivulidae
RT   (Atherinomorpha, Cyprinodontiformes): A molecular phylogenetic and
RT   biogeographic perspective.";
RL   Evolution 53:1200-1216(1999).
DR   EMBL; AF092421; AAF03041.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       8      8
SQ   SEQUENCE   8 AA;  1084 MW;  F0C9D3640DD44056 CRC64;

  Query Match             50.0%;  Score 18;  DB 8;  Length 8;
  Best Local Similarity   50.0%;  Pred. No. 1e+06;
  Matches    2;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 HXRW 5
              ::||
Db          3 NARW 6


RESULT 6
Q47410
ID   Q47410      PRELIMINARY;      PRT;     9 AA.
AC   Q47410;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Pot. repAX peptide (Fragment).
OS   Escherichia coli.
OG   Plasmid NR1.
OC   Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;
OC   Enterobacteriaceae; Escherichia.
OX   NCBI_TaxID=562;
```

```
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=plasmid NR1;
RX   MEDLINE=85160860; PubMed=2580099;
RA   Womble D.D., Sampathkumar P., Easton A.M., Luckow V.A., Rownd R.H.;
RT   "Transcription of the replication control region of the IncFII R-
RT   plasmid NR1 in vitro and in vivo.";
RL   J. Mol. Biol. 181:395-410(1985).
DR   EMBL; X02302; CAA26166.1; -.
DR   PIR; B28378; B28378.
DR   GO; GO:0046821; C:extrachromosomal DNA; IEA.
KW   Plasmid.
FT   NON_TER       9      9
SQ   SEQUENCE   9 AA;  1055 MW;  DCFA6412CDD1E87D CRC64;

  Query Match             50.0%;  Score 18;  DB 2;  Length 9;
  Best Local Similarity   50.0%;  Pred. No. 1e+06;
  Matches    2;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRWK 6
              :||:
Db          6 VRWQ 9


RESULT 7
Q9UMA0
ID   Q9UMA0      PRELIMINARY;      PRT;     9 AA.
AC   Q9UMA0;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   KIT protein (Fragment).
GN   KIT.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=94061059; PubMed=7694728;
RA   Spritz R.A., Holmes S.A., Berg S.Z., Nordlund J.J., Fukai K.;
RT   "A recurrent deletion in the KIT (mast/stem cell growth factor
RT   receptor) proto-oncogene is a frequent cause of human piebaldism.";
RL   Hum. Mol. Genet. 2:1499-1500(1993).
DR   EMBL; S67686; AAD13996.1; -.
FT   NON_TER       1      1
SQ   SEQUENCE   9 AA;  1182 MW;  0BC504032361B5AB CRC64;

  Query Match             50.0%;  Score 18;  DB 4;  Length 9;
  Best Local Similarity   40.0%;  Pred. No. 1e+06;
  Matches    2;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 HXRWK 6
              :: ||
Db          2 YSTWK 6


RESULT 8
Q8GZC8
ID   Q8GZC8      PRELIMINARY;      PRT;    10 AA.
AC   Q8GZC8;
DT   01-MAR-2003 (TrEMBLrel. 23, Created)
DT   01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
DT   01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE   MLA13uORF 2a.
OS   Hordeum vulgare (Barley).
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooideae;
OC   Triticeae; Hordeum.
OX   NCBI_TaxID=4513;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Halterman D.A., Wei F., Wise R.P.;
RT   "Powdery mildew-induced Mla mRNAs are alternatively spliced and
RT   contain multiple upstream open reading frames.";
RL   Plant Physiol. 0:0-0(2003).
DR   EMBL; AF523679; AAO16003.1; -.
SQ   SEQUENCE   10 AA;  1350 MW;  5A473E2440573B53 CRC64;

  Query Match             50.0%;  Score 18;  DB 10;  Length 10;
  Best Local Similarity   50.0%;  Pred. No. 5.2e+03;
  Matches    2;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 HXRW 5
              ::||
Db          7 NLRW 10


RESULT 9
Q94VC1
ID   Q94VC1      PRELIMINARY;      PRT;     8 AA.
AC   Q94VC1;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Varanus rudicollis (Rough-necked monitor).
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Varanidae; Varanus.
OX   NCBI_TaxID=169851;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Ast J.C.;
RT   "Mitochondrial DNA evidence and evolution in Varanoidea (Squamata).";
RL   Cladistics 17:0-0(2001).
DR   EMBL; AF407521; AAL10116.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       8      8
SQ   SEQUENCE   8 AA;  1053 MW;  FE2729D5A36411A6 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 8;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          2 TRW 4


RESULT 10
Q94VF6
ID   Q94VF6      PRELIMINARY;      PRT;     8 AA.
AC   Q94VF6;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Varanus jobiensis (Peach throat monitor).
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Varanidae; Varanus.
OX   NCBI_TaxID=169843;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Ast J.C.;
RT   "Mitochondrial DNA evidence and evolution in Varanoidea (Squamata).";
RL   Cladistics 17:0-0(2001).
DR   EMBL; AF407507; AAL10075.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       8      8
SQ   SEQUENCE   8 AA;  1144 MW;  EFD729DB436411A6 CRC64;
```

```
  Query Match             47.2%;  Score 17;  DB 8;  Length 8;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          2 TRW 4


RESULT 11
Q8WGD7
ID   Q8WGD7      PRELIMINARY;      PRT;     8 AA.
AC   Q8WGD7;
DT   01-MAR-2002 (TrEMBLrel. 20, Created)
DT   01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome oxidase subunit 1 (Fragment).
OS   Lomis hirta.
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Arthropoda; Crustacea; Malacostraca;
OC   Eumalacostraca; Eucarida; Decapoda; Pleocyemata; Anomura; Lomoidea;
OC   Lomidae; Lomis.
OX   NCBI_TaxID=177234;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Morrison C.L., Harvey A.W., Lavery S., Tieu K., Huang Y.,
RA   Cunningham C.W.;
RT   "Mitochondrial gene rearrangements support a hypothesis of parallel
RT   evolution to the crab-like form.";
RL   Submitted (OCT-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF436035; AAL31611.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       1      1
FT   NON_TER       8      8
SQ   SEQUENCE   8 AA;  1038 MW;  C5B5B9C733640321 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 8;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          2 KRW 4


RESULT 12
Q94V88
ID   Q94V88      PRELIMINARY;      PRT;     8 AA.
AC   Q94V88;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Varanus tristis.
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Varanidae; Varanus.
OX   NCBI_TaxID=62052;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Ast J.C.;
RT   "Mitochondrial DNA evidence and evolution in Varanoidea (Squamata).";
RL   Cladistics 17:0-0(2001).
DR   EMBL; AF407533; AAL10151.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       8      8
SQ   SEQUENCE   8 AA;  1041 MW;  E8B5B9C7336411A6 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 8;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          2 TRW 4


RESULT 13
Q9T4Y2
ID   Q9T4Y2      PRELIMINARY;      PRT;     8 AA.
AC   Q9T4Y2;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   COI gene product (Fragment).
OS   Asterina pectinifera (Starfish).
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Echinodermata; Eleutherozoa; Asterozoa;
OC   Asteroidea; Valvatacea; Valvatida; Asterinidae; Asterina.
OX   NCBI_TaxID=7594;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=89354669; PubMed=2765382;
RA   Jacobs H.T., Asakawa S., Araki T., Miura K., Smith M.J., Watanabe K.;
RT   "Conserved tRNA gene cluster in starfish mitochondrial DNA.";
RL   Curr. Genet. 15:193-206(1989).
DR   EMBL; X16886; CAA34767.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       8      8
SQ   SEQUENCE   8 AA;  1114 MW;  F0C9D36415B736D6 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 8;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 SRW 6


RESULT 14
Q94VJ4
ID   Q94VJ4      PRELIMINARY;      PRT;     8 AA.
AC   Q94VJ4;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Varanus bengalensis nebulosis (Clouded monitor).
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Varanidae; Varanus.
OX   NCBI_TaxID=169827;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Ast J.C.;
RT   "Mitochondrial DNA evidence and evolution in Varanoidea (Squamata).";
RL   Cladistics 17:0-0(2001).
DR   EMBL; AF407492; AAL10031.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       8      8
SQ   SEQUENCE   8 AA;  1053 MW;  E8B5B9C733640056 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 8;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
```

```
Db          2 IRW 4


RESULT 15
Q94V91
ID   Q94V91      PRELIMINARY;      PRT;     8 AA.
AC   Q94V91;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Varanus timorensis (Timor monitor).
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Varanidae; Varanus.
OX   NCBI_TaxID=62053;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Ast J.C.;
RT   "Mitochondrial DNA evidence and evolution in Varanoidea (Squamata).";
RL   Cladistics 17:0-0(2001).
DR   EMBL; AF407532; AAL10148.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       8       8
SQ   SEQUENCE   8 AA;  1041 MW;  E8B5B9C7336411A6 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 8;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          2 TRW 4


RESULT 16
Q94VE4
ID   Q94VE4      PRELIMINARY;      PRT;     8 AA.
AC   Q94VE4;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Varanus melinus (Quince monitor lizard).
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Varanidae; Varanus.
OX   NCBI_TaxID=169846;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Ast J.C.;
RT   "Mitochondrial DNA evidence and evolution in Varanoidea (Squamata).";
RL   Cladistics 17:0-0(2001).
DR   EMBL; AF407511; AAL10087.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       8       8
SQ   SEQUENCE   8 AA;  1041 MW;  E8B5B9C7336411A6 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 8;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          2 TRW 4


RESULT 17
Q94VB2
ID   Q94VB2      PRELIMINARY;      PRT;     8 AA.
AC   Q94VB2;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Varanus salvator togianus.
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Varanidae; Varanus.
OX   NCBI_TaxID=169832;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Ast J.C.;
RT   "Mitochondrial DNA evidence and evolution in Varanoidea (Squamata).";
RL   Cladistics 17:0-0(2001).
DR   EMBL; AF407524; AAL10125.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       8       8
SQ   SEQUENCE   8 AA;  992 MW;  EFC775A5A36411A6 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 8;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          2 TRW 4


RESULT 18
Q94VF9
ID   Q94VF9      PRELIMINARY;      PRT;     8 AA.
AC   Q94VF9;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Varanus indicus (Mangrove monitor).
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Varanidae; Varanus.
OX   NCBI_TaxID=62043;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Ast J.C.;
RT   "Mitochondrial DNA evidence and evolution in Varanoidea (Squamata).";
RL   Cladistics 17:0-0(2001).
DR   EMBL; AF407506; AAL10072.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       8       8
SQ   SEQUENCE   8 AA;  1041 MW;  E8B5B9C7336411A6 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 8;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          2 TRW 4


RESULT 19
Q94VA7
ID   Q94VA7      PRELIMINARY;      PRT;     8 AA.
AC   Q94VA7;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
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DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Varanus salvator salvator.
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Varanidae; Varanus.
OX   NCBI_TaxID=169831;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Ast J.C.;
RT   "Mitochondrial DNA evidence and evolution in Varanoidea (Squamata).";
RL   Cladistics 17:0-0(2001).
DR   EMBL; AF407526; AAL10130.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       8       8
SQ   SEQUENCE   8 AA;  992 MW;  EFC775A5A36411A6 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 8;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          2 TRW 4


RESULT 20
Q94VB5
ID   Q94VB5      PRELIMINARY;      PRT;     8 AA.
AC   Q94VB5;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Varanus salvator cumingi.
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Varanidae; Varanus.
OX   NCBI_TaxID=169830;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Ast J.C.;
RT   "Mitochondrial DNA evidence and evolution in Varanoidea (Squamata).";
RL   Cladistics 17:0-0(2001).
DR   EMBL; AF407523; AAL10122.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       8       8
SQ   SEQUENCE   8 AA;  992 MW;  EFC775A5A36411A6 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 8;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          2 TRW 4


RESULT 21
Q62721
ID   Q62721      PRELIMINARY;      PRT;     8 AA.
AC   Q62721;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-NOV-1998 (TrEMBLrel. 08, Last annotation update)
DE   Prohibitin (Fragment).
OS   Rattus norvegicus (Rat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX   NCBI_TaxID=10116;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=Fisher;
RX   MEDLINE=95331633; PubMed=7607556;
RA   Altus M.S., Wood C.M., Stewart D.A., Roskams A.I., Friedman V.,
RA   Henderson T., Owens G.A., Danner D.B., Jupe E.R., Dell'Orco R.T.,
RA   McClung J.K.;
RT   "Regions of evolutionary conservation between the rat and human
RT   prohibitin-encoding genes.";
RL   Gene 158:291-294(1995).
DR   EMBL; U17178; AAA86692.1; -.
FT   NON_TER       8       8
SQ   SEQUENCE   8 AA;  1150 MW;  EFD3237B05A41376 CRC64;

  Query Match             47.2%;  Score 17;  DB 11;  Length 8;
  Best Local Similarity   50.0%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          3 XRWK 6
              : ||
Db          4 SEWK 7


RESULT 22
Q9T688
ID   Q9T688      PRELIMINARY;      PRT;     9 AA.
AC   Q9T688;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Gecko gecko (Tokay gecko).
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Gekkota; Gekkonidae; Gekko.
OX   NCBI_TaxID=36310;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=99343618; PubMed=10413626;
RA   Macey J.R., Wang Y., Ananjeva N.B., Larson A., Papenfuss T.J.;
RT   "Vicariant patterns of fragmentation among gekkonid lizards of the
RT   genus teratoscincus produced by the indian collision: A molecular
RT   phylogenetic perspective and an area cladogram for central asia.";
RL   Mol. Phylogenet. Evol. 12:320-332(1999).
DR   EMBL; AF114249; AAD51600.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       9       9
SQ   SEQUENCE   9 AA;  1188 MW;  428CB9C9D36411A7 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 9;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          3 TRW 5


RESULT 23
Q94VH4
ID   Q94VH4      PRELIMINARY;      PRT;     9 AA.
AC   Q94VH4;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Varanus glauerti.
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Varanidae; Varanus.
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OX   NCBI_TaxID=169841;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Ast J.C.;
RT   "Mitochondrial DNA evidence and evolution in Varanoidea (Squamata).";
RL   Cladistics 17:0-0(2001).
DR   EMBL; AF407500; AAL10054.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       9      9
SQ   SEQUENCE   9 AA;  1124 MW;  9E80C733640DD731 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 9;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 ARW 6


RESULT 24
Q94VD8
ID   Q94VD8      PRELIMINARY;      PRT;     9 AA.
AC   Q94VD8;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Varanus niloticus (Nile monitor).
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Varanidae; Varanus.
OX   NCBI_TaxID=62046;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Ast J.C.;
RT   "Mitochondrial DNA evidence and evolution in Varanoidea (Squamata).";
RL   Cladistics 17:0-0(2001).
DR   EMBL; AF407514; AAL10096.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       9      9
SQ   SEQUENCE   9 AA;  1154 MW;  9E80C7336411A731 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 9;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 TRW 6


RESULT 25
Q8SHF0
ID   Q8SHF0      PRELIMINARY;      PRT;     9 AA.
AC   Q8SHF0;
DT   01-JUN-2002 (TrEMBLrel. 21, Created)
DT   01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Chamaeleo namaquensis (Namaqua chameleon).
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Iguania; Acrodonta; Chamaeleonidae; Chamaeleo.
OX   NCBI_TaxID=179917;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Townsend T.M., Larson A.L.;
RT   "Molecular Phylogenetics and Mitochondrial Genomic Evolution in the
RT   Chamaeleonidae (Reptilia, Squamata).";
RL   Submitted (NOV-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF448757; AAL90553.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       9      9
SQ   SEQUENCE   9 AA;  1205 MW;  358CB72733640733 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 9;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          3 LRW 5


RESULT 26
Q94VI8
ID   Q94VI8      PRELIMINARY;      PRT;     9 AA.
AC   Q94VI8;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Varanus eremius.
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Varanidae; Varanus.
OX   NCBI_TaxID=62040;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Ast J.C.;
RT   "Mitochondrial DNA evidence and evolution in Varanoidea (Squamata).";
RL   Cladistics 17:0-0(2001).
DR   EMBL; AF407495; AAL10040.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       9      9
SQ   SEQUENCE   9 AA;  1124 MW;  9E80C733640DD731 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 9;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 ARW 6


RESULT 27
Q94VI0
ID   Q94VI0      PRELIMINARY;      PRT;     9 AA.
AC   Q94VI0;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Varanus giganteus (Perentie).
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Varanidae; Varanus.
OX   NCBI_TaxID=62041;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Ast J.C.;
RT   "Mitochondrial DNA evidence and evolution in Varanoidea (Squamata).";
RL   Cladistics 17:0-0(2001).
DR   EMBL; AF407498; AAL10048.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
```

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FT   NON_TER       9      9
SQ   SEQUENCE   9 AA;  1138 MW;  9C4CB7336411A9D1 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 9;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 TRW 6


RESULT 28
Q94VJ1
ID   Q94VJ1      PRELIMINARY;      PRT;     9 AA.
AC   Q94VJ1;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Varanus doreanus.
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Varanidae; Varanus.
OX   NCBI_TaxID=169836;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Ast J.C.;
RT   "Mitochondrial DNA evidence and evolution in Varanoidea (Squamata).";
RL   Cladistics 17:0-0(2001).
DR   EMBL; AF407493; AAL10034.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       9      9
SQ   SEQUENCE   9 AA;  1155 MW;  8F68B5B9C7336411 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 9;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          2 TRW 4


RESULT 29
Q94VG2
ID   Q94VG2      PRELIMINARY;      PRT;     9 AA.
AC   Q94VG2;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Varanus indicus (Mangrove monitor).
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Varanidae; Varanus.
OX   NCBI_TaxID=62043;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Ast J.C.;
RT   "Mitochondrial DNA evidence and evolution in Varanoidea (Squamata).";
RL   Cladistics 17:0-0(2001).
DR   EMBL; AF407505; AAL10069.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       9      9
SQ   SEQUENCE   9 AA;  1258 MW;  881259C727336411 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 9;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          2 TRW 4


RESULT 30
Q94VC6
ID   Q94VC6      PRELIMINARY;      PRT;     9 AA.
AC   Q94VC6;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Varanus pilbarensis.
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Varanidae; Varanus.
OX   NCBI_TaxID=62048;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Ast J.C.;
RT   "Mitochondrial DNA evidence and evolution in Varanoidea (Squamata).";
RL   Cladistics 17:0-0(2001).
DR   EMBL; AF407518; AAL10108.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       9      9
SQ   SEQUENCE   9 AA;  1064 MW;  874CA5A36411A735 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 9;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 TRW 6


RESULT 31
Q8WGE6
ID   Q8WGE6      PRELIMINARY;      PRT;     9 AA.
AC   Q8WGE6;
DT   01-MAR-2002 (TrEMBLrel. 20, Created)
DT   01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome oxidase subunit 1 (Fragment).
OS   Procambarus clarkii (Red swamp crayfish).
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Arthropoda; Crustacea; Malacostraca;
OC   Eumalacostraca; Eucarida; Decapoda; Pleocyemata; Astacidea;
OC   Astacoidea; Cambaridae; Procambarus.
OX   NCBI_TaxID=6728;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Morrison C.L., Harvey A.W., Lavery S., Tieu K., Huang Y.,
RA   Cunningham C.W.;
RT   "Mitochondrial gene rearrangements support a hypothesis of parallel
RT   evolution to the crab-like form.";
RL   Submitted (OCT-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF436024; AAL31599.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       1      1
FT   NON_TER       9      9
SQ   SEQUENCE   9 AA;  1185 MW;  936BB9C733640321 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 9;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;
```

```
Qy          3 XRW 5
              :||
Db          3 KRW 5


RESULT 32
Q94VE1
ID   Q94VE1      PRELIMINARY;      PRT;     9 AA.
AC   Q94VE1;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Varanus mertensi (Mertens' water monitor).
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Varanidae; Varanus.
OX   NCBI_TaxID=62044;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Ast J.C.;
RT   "Mitochondrial DNA evidence and evolution in Varanoidea (Squamata).";
RL   Cladistics 17:0-0(2001).
DR   EMBL; AF407512; AAL10090.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER       9      9
SQ   SEQUENCE   9 AA;  1154 MW;  9E80C7336411A731 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 9;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 TRW 6


RESULT 33
Q38366
ID   Q38366      PRELIMINARY;      PRT;     9 AA.
AC   Q38366;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   E gene product (Fragment).
OS   Bacteriophage phi-X174.
OC   Viruses; ssDNA viruses; Microviridae; Microvirus.
OX   NCBI_TaxID=10847;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=88118956; PubMed=2963134;
RA   Buckley K.J., Hayashi M.;
RT   "Role of premature translational termination in the regulation of
RT   expression of the phiX174 lysis gene.";
RL   J. Mol. Biol. 198:599-607(1987).
DR   EMBL; X07809; CAA30668.1; -.
FT   NON_TER       9      9
SQ   SEQUENCE   9 AA;  1207 MW;  C093B37731B36412 CRC64;

  Query Match             47.2%;  Score 17;  DB 9;  Length 9;
  Best Local Similarity   66.7%;  Pred. No. 1e+06;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          2 VRW 4


RESULT 34
Q801K2
ID   Q801K2      PRELIMINARY;      PRT;     9 AA.
AC   Q801K2;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Beta fibrinogen (Fragment).
GN   BETA FIBRINOGEN.
OS   Antilophia galeata (helmeted manakin).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Passeriformes; Tyrannidae; Antilophia.
OX   NCBI_TaxID=208054;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Marini M.A., Hackett S.J.;
RT   "A Multifaceted Approach to the Characterization of an Intergeneric
RT   Hybrid Manakin (Pipridae) from Brazil.";
RL   Auk 119:1114-1120(2002).
DR   EMBL; AY136615; AAN16892.1; -.
FT   NON_TER       1      1
FT   NON_TER       9      9
SQ   SEQUENCE   9 AA;  992 MW;  8620B37878744AB1 CRC64;

  Query Match             47.2%;  Score 17;  DB 13;  Length 9;
  Best Local Similarity   40.0%;  Pred. No. 1e+06;
  Matches    2;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              |:: |
Db          3 DNGGW 7


RESULT 35
Q801K1
ID   Q801K1      PRELIMINARY;      PRT;     9 AA.
AC   Q801K1;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Beta fibrinogen (Fragment).
GN   BETA FIBRINOGEN.
OS   Chiroxiphia caudata.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Passeriformes; Pipridae; Chiroxiphia.
OX   NCBI_TaxID=196027;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Marini M.A., Hackett S.J.;
RT   "A Multifaceted Approach to the Characterization of an Intergeneric
RT   Hybrid Manakin (Pipridae) from Brazil.";
RL   Auk 119:1114-1120(2002).
DR   EMBL; AY136616; AAN16893.1; -.
FT   NON_TER       1      1
FT   NON_TER       9      9
SQ   SEQUENCE   9 AA;  992 MW;  8620B37878744AB1 CRC64;

  Query Match             47.2%;  Score 17;  DB 13;  Length 9;
  Best Local Similarity   40.0%;  Pred. No. 1e+06;
  Matches    2;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              |:: |
Db          3 DNGGW 7


RESULT 36
Q801K0
ID   Q801K0      PRELIMINARY;      PRT;     9 AA.
AC   Q801K0;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Beta fibrinogen (Fragment).
GN   BETA FIBRINOGEN.
OS   Ilicura militaris (pin-tailed manakin).
```

```
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Passeriformes; Tyrannidae; Ilicura.
OX   NCBI_TaxID=208056;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Marini M.A., Hackett S.J.;
RT   "A Multifaceted Approach to the Characterization of an Intergeneric
RT   Hybrid Manakin (Pipridae) from Brazil.";
RL   Auk 119:1114-1120(2002).
DR   EMBL; AY136617; AAN16894.1; -.
FT   NON_TER       1       1
FT   NON_TER       9       9
SQ   SEQUENCE   9 AA;  992 MW;  8620B37878744AB1 CRC64;

  Query Match             47.2%;  Score 17;  DB 13;  Length 9;
  Best Local Similarity   40.0%;  Pred. No. 1e+06;
  Matches    2;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DHXRW 5
              |:: |
Db          3 DNGGW 7


RESULT 37
Q9T8P3
ID   Q9T8P3      PRELIMINARY;      PRT;    10 AA.
AC   Q9T8P3;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Liolaemus andinus.
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Iguania; Liolaemidae; Liolaemus.
OX   NCBI_TaxID=109394;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Schulte J.A. II, Macey J.R., Espinoza R.E., Larson A.;
RT   "Phylogenetic relationships in the iguanid lizard Genus Liolaemus:
RT   Multiple origins of viviparous reproduction and evidence for recurring
RT   Andean vicariance and dispersal.";
RL   Biol. J. Linn. Soc. 69:75-102(2000).
DR   EMBL; AF099245; AAF18841.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER      10     10
SQ   SEQUENCE   10 AA;  1254 MW;  1A3580C733640440 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 7.9e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 NRW 6


RESULT 38
Q9B4W1
ID   Q9B4W1      PRELIMINARY;      PRT;    10 AA.
AC   Q9B4W1;
DT   01-JUN-2001 (TrEMBLrel. 17, Created)
DT   01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit 1 (Fragment).
GN   COI.
OS   Triturus vulgaris (Smooth newt).
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Amphibia; Batrachia; Caudata; Salamandroidea; Salamandridae; Triturus.
OX   NCBI_TaxID=8324;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=21175761; PubMed=11277635;
RA   Weisrock D.W., Macey J.R., Ugurtas I.H., Larson A., Papenfuss T.J.;
RT   "Molecular Phylogenetics and Historical Biogeography among
RT   Salamandrids of the 'True' Salamander Clade: Rapid Branching of
RT   Numerous Highly Divergent Lineages in Mertensiella luschani Associated
RT   with the Rise of Anatolia.";
RL   Mol. Phylogenet. Evol. 18:434-448(2001).
DR   EMBL; AF296619; AAK30314.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER      10     10
SQ   SEQUENCE   10 AA;  1286 MW;  03D380C7336411A0 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 7.9e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 TRW 6


RESULT 39
Q8SHB1
ID   Q8SHB1      PRELIMINARY;      PRT;    10 AA.
AC   Q8SHB1;
DT   01-JUN-2002 (TrEMBLrel. 21, Created)
DT   01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Rhampholeon brevicaudatus (Bearded pygmy chameleon).
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Iguania; Acrodonta; Chamaeleonidae;
OC   Rhampholeon.
OX   NCBI_TaxID=91912;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Townsend T.M., Larson A.L.;
RT   "Molecular Phylogenetics and Mitochondrial Genomic Evolution in the
RT   Chamaeleonidae (Reptilia, Squamata).";
RL   Submitted (NOV-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF448771; AAL90595.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER      10     10
SQ   SEQUENCE   10 AA;  1291 MW;  86218E2733641771 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 7.9e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 PRW 6


RESULT 40
Q9T8K7
ID   Q9T8K7      PRELIMINARY;      PRT;    10 AA.
AC   Q9T8K7;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Liolaemus multimaculatus.
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Iguania; Liolaemidae; Liolaemus.
```

```
OX   NCBI_TaxID=109426;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Schulte J.A. II, Macey J.R., Espinoza R.E., Larson A.;
RT   "Phylogenetic relationships in the iguanid lizard Genus Liolaemus:
RT   Multiple origins of viviparous reproduction and evidence for recurring
RT   Andean vicariance and dispersal.";
RL   Biol. J. Linn. Soc. 69:75-102(2000).
DR   EMBL; AF099257; AAF18877.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER      10      10
SQ   SEQUENCE   10 AA;  1288 MW;  1A3580C9D3640440 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 7.9e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 NRW 6


RESULT 41
Q9T8N1
ID   Q9T8N1      PRELIMINARY;      PRT;    10 AA.
AC   Q9T8N1;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Liolaemus poecilochromis.
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Iguania; Liolaemidae; Liolaemus.
OX   NCBI_TaxID=109432;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=SDSU3593;
RA   Schulte J.A. II, Macey J.R., Espinoza R.E., Larson A.;
RT   "Phylogenetic relationships in the iguanid lizard Genus Liolaemus:
RT   Multiple origins of viviparous reproduction and evidence for recurring
RT   Andean vicariance and dispersal.";
RL   Biol. J. Linn. Soc. 69:75-102(2000).
DR   EMBL; AF099249; AAF18853.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER      10      10
SQ   SEQUENCE   10 AA;  1288 MW;  1A3580C9D3640440 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 7.9e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 NRW 6


RESULT 42
O79903
ID   O79903      PRELIMINARY;      PRT;    10 AA.
AC   O79903;
DT   01-NOV-1998 (TrEMBLrel. 08, Created)
DT   01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Oplurus cuvieri (Madagascan collared iguanid lizard).
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Iguania; Iguanidae; Oplurinae; Oplurus.
OX   NCBI_TaxID=44151;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=97315309; PubMed=9169559;
RA   Macey J.R., Larson A., Ananjeva N.B., Papenfuss T.J.;
RT   "Evolutionary shifts in three major structural features of the
RT   mitochondrial genome among iguanian lizards.";
RL   J. Mol. Evol. 44:660-674(1997).
DR   EMBL; U82685; AAC62293.1; -.
DR   PIR; T17066; T17066.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER      10      10
SQ   SEQUENCE   10 AA;  1349 MW;  0A3480C9D3640440 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 7.9e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 NRW 6


RESULT 43
Q8WDH0
ID   Q8WDH0      PRELIMINARY;      PRT;    10 AA.
AC   Q8WDH0;
DT   01-MAR-2002 (TrEMBLrel. 20, Created)
DT   01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome oxidase subunit 1 (Fragment).
GN   CO1.
OS   Anolis limifrons.
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Iguania; Iguanidae; Polychrotinae; Anolis.
OX   NCBI_TaxID=38897;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Glor R.E., Vitt L.J., Larson A.;
RL   Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF337783; AAL72049.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER      10      10
SQ   SEQUENCE   10 AA;  1315 MW;  0A3480C733640440 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 7.9e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 NRW 6


RESULT 44
Q8W969
ID   Q8W969      PRELIMINARY;      PRT;    10 AA.
AC   Q8W969;
DT   01-MAR-2002 (TrEMBLrel. 20, Created)
DT   01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Cytochrome oxidase subunit 1 (Fragment).
GN   CO1.
OS   Anolis ortonii (Bark anole).
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Iguania; Iguanidae; Polychrotinae; Anolis.
OX   NCBI_TaxID=44141;
RN   [1]
RP   SEQUENCE FROM N.A.
```

```
RA   Glor R.E., Vitt L.J., Larson A.;
RL   Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF337793; AAL72069.1; -.
DR   EMBL; AF337794; AAL72071.1; -.
DR   EMBL; AF337795; AAL72073.1; -.
DR   EMBL; AF337796; AAL72075.1; -.
DR   EMBL; AF337797; AAL72077.1; -.
DR   EMBL; AF337798; AAL72079.1; -.
DR   EMBL; AF337799; AAL72081.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER      10     10
SQ   SEQUENCE   10 AA;  1349 MW;  0A3480C9D3640440 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 7.9e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 NRW 6


RESULT 45
Q8SHC6
ID   Q8SHC6      PRELIMINARY;      PRT;    10 AA.
AC   Q8SHC6;
DT   01-JUN-2002 (TrEMBLrel. 21, Created)
DT   01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Cytochrome c oxidase subunit I (Fragment).
GN   COI.
OS   Furcifer belalandaensis (Chameleon).
OG   Mitochondrion.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Iguania; Acrodonta; Chamaeleonidae; Furcifer.
OX   NCBI_TaxID=179924;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Townsend T.M., Larson A.L.;
RT   "Molecular Phylogenetics and Mitochondrial Genomic Evolution in the
RT   Chamaeleonidae (Reptilia, Squamata).";
RL   Submitted (NOV-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF448765; AAL90577.1; -.
DR   GO; GO:0005739; C:mitochondrion; IEA.
KW   Mitochondrion.
FT   NON_TER      10     10
SQ   SEQUENCE   10 AA;  1295 MW;  86218E27336411B1 CRC64;

  Query Match             47.2%;  Score 17;  DB 8;  Length 10;
  Best Local Similarity   66.7%;  Pred. No. 7.9e+03;
  Matches    2;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          3 XRW 5
              :||
Db          4 TRW 6


Search completed: May 18, 2004, 15:56:21
Job time : 41 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: May 18, 2004, 15:48:40 ; Search time 53 Seconds
(without alignments)
31.987 Million cell updates/sec

Title: CLAIM11
Perfect score: 36
Sequence: 1 DHXRWK 6

Scoring table: BLOSUM62DX
Gapop 10.0 , Gapext 0.5

Searched: 1586107 seqs, 282547505 residues

Total number of hits satisfying chosen parameters: 325896

Minimum DB seq length: 0
Maximum DB seq length: 10

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_29Jan04:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	36	100.0	6	4	AAB90862	Aab90862 Melanocyt
2	36	100.0	6	4	AAB92403	Aab92403 Miscellan
3	36	100.0	7	1	AAP82643	Aap82643 Cyclic al
4	36	100.0	7	1	AAP82647	Aap82647 Linear al
5	36	100.0	7	1	AAP82640	Aap82640 Linear al
6	36	100.0	7	2	AAR26232	Aar26232 MSH pepti
7	36	100.0	7	2	AAR65782	Aar65782 Linear pe
8	36	100.0	7	2	AAR65783	Aar65783 Cyclic pe
9	36	100.0	7	2	AAW19922	Aaw19922 Erectogen
10	36	100.0	7	2	AAW19921	Aaw19921 Erectogen
11	36	100.0	7	2	AAW45070	Aaw45070 Lactam-br
12	36	100.0	7	2	AAW29355	Aaw29355 Linear hu
13	36	100.0	7	2	AAW29337	Aaw29337 Cyclic hu
14	36	100.0	7	2	AAW29363	Aaw29363 Cyclic hu
15	36	100.0	7	2	AAW29362	Aaw29362 Linear hu
16	36	100.0	7	2	AAY02420	Aay02420 Somatosta
17	36	100.0	7	2	AAW47816	Aaw47816 Linear al
18	36	100.0	7	2	AAW47823	Aaw47823 Linear al
19	36	100.0	7	2	AAW50292	Aaw50292 Cyclic pe
20	36	100.0	7	2	AAW50293	Aaw50293 Cyclic pe
21	36	100.0	7	3	AAB11885	Aab11885 Alpha-MSH
22	36	100.0	7	3	AAY53557	Aay53557 Melanocor
23	36	100.0	7	3	AAY53562	Aay53562 Melanocor
24	36	100.0	7	3	AAY53558	Aay53558 Melanocor
25	36	100.0	7	3	AAY80502	Aay80502 Human [Nl
26	36	100.0	7	3	AAY87805	Aay87805 Melanocor
27	36	100.0	7	3	AAY87808	Aay87808 Melanocor
28	36	100.0	7	3	AAY87804	Aay87804 Melanocor
29	36	100.0	7	3	AAB26588	Aab26588 Melanotan
30	36	100.0	7	3	AAB00108	Aab00108 Control p
31	36	100.0	7	3	AAB29241	Aab29241 Melanocor
32	36	100.0	7	4	AAG65948	Aag65948 Synthetic
33	36	100.0	7	4	AAB61545	Aab61545 alpha-mel
34	36	100.0	7	5	AAE29082	Aae29082 Alpha-mel
35	36	100.0	7	5	ABG94506	Abg94506 Alpha-mel
36	36	100.0	7	5	ABB76171	Abb76171 Melanocor
37	36	100.0	7	5	ABB76172	Abb76172 Melanocor
38	36	100.0	7	5	AAO19482	Aao19482 Melanotan
39	36	100.0	7	5	ABG33064	Abg33064 Synthetic
40	36	100.0	7	7	ABU08224	Abu08224 Synthetic
41	36	100.0	8	2	AAR65784	Aar65784 Cyclic pe
42	36	100.0	8	2	AAR65788	Aar65788 Cyclic pe
43	36	100.0	8	2	AAW19927	Aaw19927 Erectogen
44	36	100.0	8	2	AAW19923	Aaw19923 Erectogen
45	36	100.0	8	2	AAW29344	Aaw29344 Cyclic hu

ALIGNMENTS

RESULT 1
AAB90862
ID AAB90862 standard; peptide; 6 AA.
XX
AC AAB90862;
XX
DT 22-JUN-2001 (first entry)
XX
DE Melanocyte stimulating hormone (MSH) related peptide SEQ ID NO:34.
XX
KW Protection; endogenous therapeutic peptide; peptidase; conjugation;
KW blood component; modification; succinimidyl; maleimido group; amino;
KW hydroxyl; thiol; hormone; growth factor; neurotransmitter.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN WO200069900-A2.
XX
PD 23-NOV-2000.
XX
PF 17-MAY-2000; 2000WO-US013576.
XX
PR 17-MAY-1999; 99US-0134406P.
PR 10-SEP-1999; 99US-0153406P.
PR 15-OCT-1999; 99US-0159783P.
XX
PA (CONJ-) CONJUCHEM INC.
XX
PI Bridon DP, Ezrin AM, Milner PG, Holmes DL, Thibaudeau K;
XX
DR WPI; 2001-112059/12.
XX
PT Modifying and attaching therapeutic peptides to albumin prevents
PT peptidase degradation, useful for increasing length of in vivo activity.
XX
PS Disclosure; Page 201; 733pp; English.
XX
CC The present invention describes a modified therapeutic peptide (I)
CC comprising a therapeutically active amino acid region (III) and a
CC reactive group (II) (e.g. succinimidyl and maleimido groups) attached to
CC a less therapeutically active amino acid region (IV), which covalently
CC bonds with amino/hydroxyl/thiol groups on blood components to form a
CC peptidase stabilised therapeutic peptide composed of 3-50 amino acids.
CC (I) are useful for modifying therapeutic peptides e.g. hormones, growth
CC factors and neurotransmitters, to protect them from peptidase activity in
CC vivo for the treatment of various disorders. Endogenous therapeutic
CC peptides are not suitable as drug candidates as they require frequent

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CC   administration due to rapid degradation by peptidases in the body.
CC   Modifying and attaching therapeutic peptides to albumin prevents or
CC   reduces the action of peptidases to increase length of activity (half
CC   life) and specificity as bonding to large molecules decreases
CC   intracellular uptake and interference with physiological processes.
CC   AAB90829 to AAB92441 represent peptides which can be used in the
CC   exemplification of the present invention
XX
SQ   Sequence 6 AA;

  Query Match             100.0%;  Score 36;  DB 4;  Length 6;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          1 DHFRWK 6


RESULT 2
AAB92403
ID   AAB92403 standard; peptide; 6 AA.
XX
AC   AAB92403;
XX
DT   22-JUN-2001  (first entry)
XX
DE   Miscellaneous peptide SEQ ID NO:1579.
XX
KW   Protection; endogenous therapeutic peptide; peptidase; conjugation;
KW   blood component; modification; succinimidyl; maleimido group; amino;
KW   hydroxyl; thiol; hormone; growth factor; neurotransmitter.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO200069900-A2.
XX
PD   23-NOV-2000.
XX
PF   17-MAY-2000; 2000WO-US013576.
XX
PR   17-MAY-1999;   99US-0134406P.
PR   10-SEP-1999;   99US-0153406P.
PR   15-OCT-1999;   99US-0159783P.
XX
PA   (CONJ-) CONJUCHEM INC.
XX
PI   Bridon DP,  Ezrin AM,  Milner PG,  Holmes DL,  Thibaudeau K;
XX
DR   WPI; 2001-112059/12.
XX
PT   Modifying and attaching therapeutic peptides to albumin prevents
PT   peptidase degradation, useful for increasing length of in vivo activity.
XX
PS   Disclosure; Page 720; 733pp; English.
XX
CC   The present invention describes a modified therapeutic peptide (I)
CC   comprising a therapeutically active amino acid region (III) and a
CC   reactive group (II) (e.g. succinimidyl and maleimido groups) attached to
CC   a less therapeutically active amino acid region (IV), which covalently
CC   bonds with amino/hydroxyl/thiol groups on blood components to form a
CC   peptidase stabilised therapeutic peptide composed of 3-50 amino acids.
CC   (I) are useful for modifying therapeutic peptides e.g. hormones, growth
CC   factors and neurotransmitters, to protect them from peptidase activity in
CC   vivo for the treatment of various disorders. Endogenous therapeutic
CC   peptides are not suitable as drug candidates as they require frequent
CC   administration due to rapid degradation by peptidases in the body.
CC   Modifying and attaching therapeutic peptides to albumin prevents or
CC   reduces the action of peptidases to increase length of activity (half
CC   life) and specificity as bonding to large molecules decreases
CC   intracellular uptake and interference with physiological processes.
CC   AAB90829 to AAB92441 represent peptides which can be used in the
CC   exemplification of the present invention
XX
SQ   Sequence 6 AA;

  Query Match             100.0%;  Score 36;  DB 4;  Length 6;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          1 DHARWK 6


RESULT 3
AAP82643
ID   AAP82643 standard; protein; 7 AA.
XX
AC   AAP82643;
XX
DT   25-MAR-2003  (revised)
DT   07-NOV-1990  (first entry)
XX
DE   Cyclic alpha-melanotrophin (MSH) analogue.
XX
KW   Alpha-melanotrophin; alpha-MSH; melanin; hypopigmentation.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   2. .7
FT                   /label= Peptide bond links glu and lys.
FT   Modified-site   4
FT                   /label= D-Phe.
XX
PN   EP292291-A.
XX
PD   23-NOV-1988.
XX
PF   19-MAY-1988;   88EP-00304551.
XX
PR   22-MAY-1987;   87US-00053229.
XX
PA   (UYPA ) UNIVERSITY PATENTS INC.
XX
PI   Hruby VJ,  Alobeidi FA,  Hadley ME;
XX
DR   WPI; 1988-331833/47.
XX
PT   New linear and cyclic alpha-melanotropin analogues - having increased
PT   potency and duration of action, used to stimulate melanocytes to produce
PT   melanin.
XX
PS   Claim 2; Page 20; 20pp; English.
XX
CC   The analogues are more potent and/or last longer than alpha-MSH and/or
CC   are more resistant to degredation by blood serum enzymes. They may be
CC   useful than alpha-MSH in diagnosis, therapy and research into
CC   hypopigmentation dysfunctions etc. (Updated on 25-MAR-2003 to correct PI
CC   field.)
XX
SQ   Sequence 7 AA;

  Query Match             100.0%;  Score 36;  DB 1;  Length 7;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+06;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DHXRWK 6
              ||:|||
Db          2 DHFRWK 7


RESULT 4
AAP82647
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